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ABSTRACT

This paper documents the achievement monitoring component of a three-year study on the acquisition of addition-subtraction problem-solving skills by young children. A set of performance objectives contained in or ancillary to ten instructional units on sentence-writing for verbal problems and algorithms specified test content. Tests measuring group progress toward these objectives were administered after each unit. Data for the tests given after the two units covered in the fall semester of grade 3 are presented in this paper. The scores for each objective, developed using matrix sampling procedures, indicated mastery of addition and subtraction without regrouping, mastery of the addition algorithm for numbers 0-99 and near-mastery of the subtraction algorithm for numbers 0-99. These results reflected the instructional emphasis. There was marked improvement on several of the problem-solving 0-99 and sentence-writing 0-99 objectives not previously mastered, though only one of these objectives was actually mastered. With the exception of the subt-join-addend sentence-writing 0-20 objective, progress (or maintenance) on the objectives associated with the numbers 0-20 was excellent. (Author)

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Working Paper No. 321

DATA COLLECTION PROCEDURES AND DESCRIPTIVE STATISTICS FOR THE

GRADE THREE ACHIEVEMENT MONITORING TESTS

(A-3 AND A-4), COORDINATED STUDY NO. 1

by

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- diversity as a fundamental question in American social thought, through studies of social policy related to education

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Abstract

This paper is the last in a series of four reports that document the achievement monitoring component of a three-year study on the acquisition of addition-subtraction problem-solving skills by young children. A set of performance objectives contained in or ancillary to ten instructional units on sentence-writing for verbal problems and algorithms specified test content. Tests measuring group progress toward these objectives were administered after each unit. Data for the tests given after-the two units covered in the fall semester of grade 3 are presented in this paper. The scores for each objective, developed using matrix sampling procedures, indicated mastery of addition and subtraction without regrouping, mastery of the addition algorithm for numbers 0-99 and near-mastery of the subtraction algorithm for numbers 0-99. These results reflected the instructional emphasis. There was marked improvement on several of the problem-solving 0-99 and sentence-writing 0-99 objectives not previously mastered though only one of these objectives was actually mastered. With the exception of the subtjoin-addend sentence-writing 0-20 objective, progress (or maintenance) on the objectives associated with the numbers 0-20 was excellent.

Introduction

The Mathematics Work Group of the Wisconsin Center for Education Research is presently conducting a program of research focused on children's acquisition of concepts and skills related to addition and subtraction of whole numbers. A major aim of mathematical instruction is to enable students to acquire concepts and skills requisite for solving problems of many types. A goal of our current research is to understand how pedagogical and psychological factors are related to their acquisition.

The interrelationship of pupil performance on selected arithmetic skills, pupil cognitive processes, instructional materials, and teachers! classroom behaviors is depicted in Figure 1. Using this framework, we are proceeding to:

- 1. identify important, addition and subtraction skills;
- 2. review past empirical data or collect new dats on these skills;
- re-examine these mathematical skills and hypothesize how they are related to underlying cognitive skills;
- 4. examine the instructional materials designed to teach these skills; and
- 5. conduct s series of empirical studies on the sppropriateness of particular teacher classroom behaviors, the appropriateness of instructional materials, and the relationship of specific cognitive skills to mathematical skills.

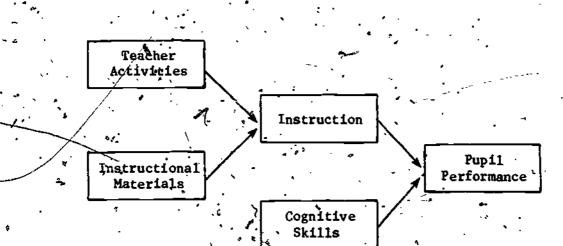


Figure 1. Factors influencing pupil performance.

The work of the Mathematics Work Group is built around the conceptual framework exemplified in Figure 1. The empirical and theoretical investigations generally involve two or more of the factors depicted and have been organized into four major categories. These are a conceptual paper series, a set of short empirical studies, a major longitudinal study, and an invitational conference of scholars.

This paper is one of a series of summary reports from the longitudinal study. Approximately 180 students in three schools were identified as subjects for the study. One school with about 60 students chose not to continue into the second year of the study. Thus, about 120 children were followed for three school years. Pupil performance was measured in several ways:

- 1. Individual interviews. At several times during each school year, individual children were administered a set of problem tasks dealing with addition and subtraction. The interviewer attempted to ascertain the children's solution strategy, correctness of answer, type of errors made, and modeling procedures.
- 2. Group-administered paper-and-pencil tests. There were two? categories of tests:
 - a. Achievement monitoring. These tests measured pupil progress toward a set of performance objectives contained in the instructional materials. By means of matrix sampling procedures, estimates were made of group performance: Achievement monitoring tests were

given shortly after the completion of the instructional units related to arithmetic objectives.

b. Topic inventories. These were very short tests that

measured pupil progress toward mastery of the objectives.

of a specific instructional unit or topic. Every subject

took the same test, resulting in a measure of individual
performance.

Fach topic inventory was given only once, providing a measure of performance on a few objectives at a single point in time; in contrast, there were repeated administrations of the same achievement monitoring test, in order to examine change in performance over time on a broad set of objectives.

room observation of teacher actions, pupil behaviors, and instructional materials. A trained observer was present each day the instructional units, or topics, dealing with arithmetic objectives were used. Organizational and grouping measures were noted, along with interactions between teacher and pupils and among pupils. Measures of pupil engaged time were estimated by observing six target students.

The purpose of this paper is to report the administration of and results for the achievement monitoring tests given to grade 3 students during the fall semester of the third year of the study in the period October 1980 through December 1980. The tests were administered following instruction in the two altorighm topics (A-3 and A-4). The paper has four major sections: background information on the subjects and instructional materials, description of the three-year achievement monitoring plan and the tests, report of

the data collection procedures, and discussion of the results. Samples of the tests: administrator's manuals, and complete item and test statistics appear in the appendices.

Background Information

Subjects

The subjects were 120 third-grade students in six classes from two elementary schools in predominantly middle class areas. These students were subjects for the study in grades one and two as well.

Curriculum Materials and Instructional Objectives

Each of the schools used as their mathematics curriculum the Developing Mathematical Processes (DMP) program (Romberg, Harvey, Moser, & Montgomery, 1974). Ten new instructional topics on addition-subtraction, to be integrated into the regular DMP sequence of topics, had been developed for the three-year study. The topics covered during grade 1 (S-1, S-2, and S-3) were sentence-writing topics; three more sentence-writing topics (S-4, S-5, and S-6) which further developed the same objectives were completed in the fall semester of grade 2. For the spring semester of grade 2 and first months of grade 3, four algorithm topics (A-1 through A-4) were taught. Instruction in other DMP topics was carried out as usual in all three grades, except for topics replaced by the ten special topics.

The ultimate goal of the ten topics was that children develop efficient problem-solving behavior in addition and subtraction problem situations. The specific goals believed to result in this behavior are the



ability to symbolize verbal problems in the form of written addition or subtraction sentences and the ability to retrieve addition and subtraction "facts" and/or use addition-subtraction algorithms.

The content of the four algorithm topics, the latter two of which were taught in the fall semester of grade 3, is summarized here:

Topic A-1. This topic introduced addition and subtraction of two-digit numbers with computation that involved no regrouping or renaming. The types of verbal problems covered in the six sentence-writing topics (joining, separating, and comparison) were presented again using two-digit numbers (see Buchanan & Romberg, 1982a). The problems were again analyzed using the part-part-whole chart, and horizontal and vertical sentences which represented the problems were written and solved. Computation with two-digit numbers not associated with verbal problems was also practiced.

Topic A-2. Two-digit addition, problems requiring regrouping were introduced, including problems with a two-digit and a one-digit number. The addition algorithm was practiced both with problems arising from verbal situations and in isolation. Two-digit subtraction without regrouping was reviewed.

Topic A-3. Two-digit subtraction problems requiring regrouping were introduced and practiced both with and without a verbal problem context.

Problems containing a two-digit and a one-digit number were also included.

The inverse relationship between addition and subtraction was covered and the addition algorithm was practiced.

Topic A-4. The content of the preceding topics was reviewed. Problems with three addends were introduced.

The skills covered in these four topics were expressed formally by the fc'lowing instructional objectives common to all:

- 1. Given an open addition or subtraction situation involving the numbers 0-99, writes a sentence that represents the situation.
- 2. Given two numbers whose sum is 0-99, computes their sum.
- 3. Given two numbers 0-99, computes their difference.

Of the many objectives included in the regular DMP topics taught in the grade 2 spring semester, only those which developed the notions of numerousness, ordering, and place value for the numbers 0-99 were essential in terms of the present study, since this content was prerequisite to the objectives of the algorithm topics. These prerequisite objectives were:

- 1. Given a set of 0-99 objects (or the spoken number), represents
 the numerousness of that set by writing the appropriate number.
- 2. Given a number 0-99, represents it physically or pictorially.
- 3. Given a set of numbers 0-99, orders them.
- 4. Given a number 0-99 writen in compact/expanded notation, writes it in expanded/compact notation.

Instruction

Instruction j we algorithm topics A-3 and A-4 occurred in the period from September 1986 December 1980. The topic pertaining to numerousness, ordering, and place value for the numbers 0-99 had been completed in grade 2

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just before A-1. The reachers cooperated with the request that the two A topics be raught according to the specifications in the instructional materials.

The mathematics classes were homogeneously grouped at school 1 into four levels. The two classes in school 3 were heterogeneously grouped.

(School 2 did not participate in the study after the first year.)

The time allowed for mathematics was:

school 1, four classes 60-minute periods twice a week
40-minute periods three times a week

school 3, two classes ___ 35_minute_periods-daily__

It had been suggested that each topic be covered in about three weeks. The actual range of time spent by the six classes appears in Table 1 and indicates that on the average classes spent a week more than the recommended time on A-3 and a week less than the recommended time on A-4. Since there was much variability among classes in the amount of time per topic, interesting relationships to achievement might be demonstrated. However, no attempt to do so will be made in this report which is concerned with performance of the total population.

Achievement Monitoring Plan and Tests

Overview of the Three-Year Plan

Figure 2 presents an overview of the achievement monitoring plan for the three years of the study. All objectives on which performance was assessed are listed in abbreviated form with an indication of the points in time when instruction occurred, when mastery was expected, and when

Table 1

Time Spent on Instruction in Algorithm Topics

Topic	Minimum	Average	Maximum		
	· · · · · · · · · · · · · · · · · · ·	<u> </u>	,		
A-3	485 min., 15 days	930 min., 22.2 days	1156 min.; 26 days		
Λ-4	237 min., 7 days	425 min., 10.0 days	636 min., 13 days		

Aminutes and days do not necessarily represent the same class.

Algorithm - Timed Treet

ERIC | 7/1017 | 2. Overview of Achievement Monitoring Plan.

back

Basic ParterSpeeded Test add b-200 subt 0-200

ب ور

achievement was monitored. The schedule called for 11 test times: the baseline test and a test after each instructional topic.

Following the general rule that objectives should be assessed bothprior to and following instruction, yet avoiding test situations which
would be overly frustrating or extremely easy for the students, four overlapping test periods were identified and objectives added to or dropped
from the achievement monitoring schedule accordingly. The four test
periods covered the middle of grade 1 to the end of grade 1 (baseline
through S-3), the middle of grade 1 to the middle of grade 2 (baseline
through S-6), the beginning of grade 2 to the middle of grade 3 (S-4
through A-4), and the middle of grade 1 to the middle of grade 3 (S-1
through A-4). Achievement was assessed a minimum of four times and a
maximum of 11 times per objective.

and yet to gather a maximum amount of information about progress toward each objective, a matrix sampling plan based on earlier work in this area was followed (Romberg & Braswell, 1973). All students in each class were assigned randomly to one of three test groups. Each test group was then assigned one of three test forms for each administration period. Each objective was represented by items on at least two and usually all three of the test forms. A description of the tests is given in the following section.

The objectives included in the achievement monitoring program were classified as (1) prerequisite instructional objectives, which were those considered necessary for achievement of the objectives of the S and



A topics, (2) instructional objectives for the S and A topics, and (3) non-instructional objectives. The noninstructional objectives pertained to skills which were not formally taught in the regular DMP program or the S and A topics. However, since there was potentially a relationship between growth in these skills and progress on the formal instructional objectives, they were included in the test program. The noninstructional skills were:

- 1. problem-solving 0-20 and 0-99
- 2. counting on and counting back
- 4. use of addition-subtraction algorithms under a timed test

The problem-solving objectives were created for achievement monitoring because the instructional objectives stated for the S and A topics specified sentence-writing skills and open sentence/algorithmic skills as discrete objectives but did not actually express in another objective the ability to integrate these skills in problem-solving situations. Assessment of problem-solving per se was also of interest because these data paralleled that gathered in the individual interview component of the study.

The objectives were also organized in terms of general mathematical content areas such as numerousness, ordering, and open sentences. (See Figure 2.) Each of these areas represented what may be thought of as a composite objective. For example, in the area of numerousness, there

was an individual objective related to writing 0-99 and another objective for representing 0-99; when these two objectives were treated as one, they formed a composite objective called numerousness. The composite objectives will be used in later analyses in which aggregate data are desirable to reduce the number of variables. In the present paper, the discussion primarily concerns individual objectives.

The sentence-writing objectives were stated as composite objectives in the instructional materials; that is, there was no explicit breakdown into individual objectives for each problem type, such as joining, separating and comparison. For two reasons, the sentence-writing objectives were broken down into several discrete objectives, each reflecting a different problem situation: first, the various problem situations were introduced at different points in the sequence of sentence-writing topics; second, and more importantly, the achievement monitoring data will eventually be integrated with data from the interview component of the study which was a gathered and analyzed in terms of problem type.

Objectives Assessed in Grade 3

The prerequisite instructional objectives and the instructional objectives for the A topics included in the test program for grade 3 were stated in full in the first section. The sentence-writing objective for the S topics was also assessed, though the two open sentence-objectives for these topics were dropped after S-6. Instruction for these three objectives had been completed at S-6 and the open sentence objectives had been mastered; however, three of the six verbal problem types (subt-

part part whole-addend, comparison, and subt-join-addend) for sentence-writing with numbers 0-20 had not been mastered after A-2 (see Buchanan & Romberg, 1982a). The sentence-writing objective is:

Given an open problem situation involving the numbers 0-20 that is solvable by using either addition or subtraction, writes a sentence that represents the situation.

The noninstructional skills for problem-solving, recall of basic facts under a speeded test condition, and use of addition and subtraction algorithms under a free response timed condition were assessed throughout this phase of the achievement monitoring. Counting was not assessed after S-6. The 34 individual objectives assessed in grade 3 are marked with an asterisk in Figure 2 and are summarized in Table 2.

A instructional objectives. The numerousness, ordering, and place value objectives for the numbers 0-99 were to be mastered just before the first A topic; that is, mastery had been expected at the A-1 test time.

Mastery of the sentence-writing objectives for numbers 0-20 had been anticipated after the completion of S-6 as explained above. It was anticipated that the three instructional objectives for addition and subtraction algorithms and sentence-writing for numbers 0-99 would be mastered upon completion of A-4.

After the original specification of noninstructional objectives, it was decided to add 3-digit numbers (objectives) to the algorithm timed subtests and also to subdivide the timed test objectives according to criteria such as whether or not regrouping was required; therefore, the final number of objectives was > 34.

Table 2

Objectives Assessed in Grade 3

<u>02</u>

Algorithms

add 0-99

Numerousness writes 0-99 represents 0-99

Ordering, Place Value ordering 0-99 notation 0-99

Sentence-writing 0-20
add-simple joining
subt-simple separating
subt-part part whole-addend
add-part part whole
subt-comparison
subt-join-addend

contonce-writing 0-99
 add-simple joining
 subt-simple separating
 subt-part part whole-addend
 add-part part whole
 subt-comparison
 subt-join-addend

Problem-solving 0-20
add-simple joining
subt-simple separating
subt-part part whole-addend
add-part-part-whole
subt-comparison 0
subt-join-addend

Problem-solving 0-99

add-simple joiningsubt-simple separating
subt-part part whole-addend
add-part part whole
subt-comparison
subt-join-addend

subt 0-99

Basic Facts Recall--Speeded Tests,
add 0-20

subt 0-20

Algorithms--Timed Test^a
add 0-99
subt 0-99

a See for thote 1 on page 14. There were no specific predictions for time of mastery for the non-instructional objectives; however, it was anticipated that performance on the recall and problem-solving skills for numbers 0-20 would be related to growth on the open sentence and sentence-writing 0-20 objectives.

Similarly, it was presumed that problem-solving skills for numbers 0-99 and algorithmic performance under timed conditions would be related to status on the regular objectives of the A topics.

Description of the Tests

Three forms (0, V, W) of a 40-minute paper-and-pencil test were developed for the fall semester of grade 3 (and spring semester of grade 2); and each form had six subtests. The major subtest contained 14 multiple-choice items covering all objectives to be assessed except for facts recall (speeded) and algorithms (timed). The second subtest measured performance on the sentence-writing 0-20 and 0-99 objectives in a free-response context. (These objectives were also included in the multiple-choice test.). Two subtests assessed recall of addition and subtraction facts under speeded test conditions. The final two subtests assessed addition and subtraction algorithm proficiency under timed conditions. Copies of the tests and administrator's manuals are in Appendix A; a discussion of the test development for all three years of the study appears elsewhere (Buchanan & Romberg, 1982b).

Multiple-choice subtest An outline of the content of each form of the multiple-choice subtest appears in Table 3. Each objective in the areas of numerousness, ordering/place value, and algorithms (not timed) was represented by one multiple-choice item on ever, test form; i.e., three items altogether per objective.

Table 3
Outline of Multiple-choice Subtest Items

Item ID ^a	Form U	Form-V	Form, W
1c,	Mimerousness writes 0-99	Numerousness writes 0-99	Numerousness writes 0-99
2D	Numerousness . represents 0-99	Numerousness represents 0-99	Numerousness represents 0-99
3E	Problem-solving 0-20 (A) subt-simple separating 11-15-	Problem-solving 0-20 (A) subt-comparison 11-15	Problem-solving 0-20 (A) add-part part whole 11-15
4F	Problem-solving 0-99 (A) subt-comparison 0-99	Problem-solving 0-99 (A) add-part part whole 0-99	Problem solving 0-99 (A) subt-simple separating 0-99
. 5G	Problem-solving 0-20 (B) subt-join-addend 11-15	Problem-solving 0-20 (B) subt-part part whole-addend 11-15	Problem-solving 0-20 (B) add-simple joining 11-15
6н	Problem-solving 0-99 (B) add-simple joining 0-99	Problem solving 0-99 (B) subt-join-addend 0-99	Problem-solving 0-99 (B) subt-part part whole-addend 0-99
71 -	Ordering, Place Value	Ordering, Place Value ordering 0-99	Ordering, Place Value ordering 0-99
≥ 8J .	Ordering, Place Value notation 0-99	Ordering, Place Value notation 0-99	Ordering, Place Value onotation 0-99
9K ,	Sentence-writing 0-20 (A) add-part part whole 11-15	Sentence-writing 0-20 (A) subt-simple separating 11-15	Sentence-writing 0-20 (A) subt-comparison 11-15
10L	Sentence-writing 0-99 (A) subt-simple separating 0-99	Sentence-writing 0-99 (A) subt-comparison 0-99	Sentence-writing 0-99 (A) add-part part whole 0-99
11M	Sentence-writing 0-20 (B) subt-join-addend 11-15	Sentence-writing 0-20 (B) subt-part part whole-addend	Sentence-writing 0-20 (B) add-simple joining 11-15

continued



**************************************	* 1						
Item ID ^a	Form/U	Form V	Form W				
12N	Sentence-writing 0-99 (B) subt-part part whole-addend 0-99	Sentence-writing 0-99 (B) add-simple joining 0-99	Sentence-writing 0-99 (B) subt-join-addend 0-99				
***	Alamatalana	***************************************	All and the Control of the Control o				
.130	Algorithms add 0-99	Algorithms add 0-99	Algorithms add 0-99				
14P	Algorithms subt 0-99	Algorithms subt 0-99	Algorithms subt 0-99				
• •		e					

The numeric ID refers to the tems as they are labeled in the computer printout reproduced in $A_{\rm P}$ pendix B. The alpha ID refers to the actual tests; items A and B are samples (see Appendix A).

Each of the 12 individual objectives for sentence-writing 0-20 and 0-99 was represented by a multiple-choice item in one of three forms; that is, one item per objective. Each verbal problem-type (e.g., joining) was therefore represented by two items, one for numbers 11-15 and one for 0-99. The two items were on different forms.

The sentence-writing objectives (or items) were further classified into two groups: Sets A and B. This was an arbitrary division created because half (Set A) of the items were designed to reflect the interview verbal problems precisely in syntax, number order, number domain, etc., while the remainder (Set B) allowed variations in these characteristics in keeping with the instructional program which presented more variations of each problem type than it was possible to cover in the individual interview. 2

Since there was no way in a multiple-choice format to have students actually write a sentence, the items required listening to a verbal problem read aloud and then choosing the sentence which correctly represented the verbal situation. The problem situation itself was not printed on the test page. This prevented reading difficulties and also was in keeping with the procedures for the interviews in which the problems were presented orally. Another subtest, explained below, contained sentence-writing items in a free-response format.

The assignment of items to test forms for the 12 objectives for problem-solving 0-20 and 0-99 exactly paralleled the assignment of

For both the sentence-writing and problem-solving objectives, Set A test verbal problems differed from interview verbal problems in that different nouns and verbs were used so that the students had a new context to consider.



sentence-writing items. That is, there was one item per objective assigned to one of the three forms. The two items total per verbal problem type-one for 0-20 and one for 0-99-were assigned to different forms. The problem-solving items, which were also in Set A or B, required the student to listen to the story, which was not printed in the test booklet, and to choose the correct solution.

All of the cuestions in the multiple-choice section of the teata were read to the children and then the key phrases were repeated; in the case of the verbal problems for the sentence-writing and problem-solving objectives, the entire story situation was read twice. The children then marked an X on one of the four response choices; the solution, two distractors, and the "puzzled face," an option which indicated "I have not kearned this yet." The response choices, symbols, and pictures were not read or explained to the children (except for the "puzzled face").

The "puzzled face" option was provided to avoid unnecessary frustration and to reduce the amount of random guessing. Although it was expected that the "puzzled face" choice would be used throughout the achievement testing because there would always be objectibes not yet introduced and/or mastered, this option was particularly useful for baseline assessment such as for algorithms. Marking the "puzzled face" allowed children to give a positive response indicating that they hadn't learned to find the answer to the question.

Sentence-writing free-response subtests. The 12 individual sentence-writing objectives (verbal problem types) for the numbers 0-20 and 0-99 were also assessed in a free-response format in which a verbal problem was

read twice to the students who were directed to write a sentence for the situation and not solve the sentence. There were two 0-20 and two 0-99 items per form. All items were in Set A (see Table 4).

Speeded subtests. There were 12 addition and 12 subtraction facts on each of the three forms; the first six problems in each case covered the facts from 4 to 9; the last six involved 10 to 18 (see Table 5).

The addition and subtraction recall subtests were introduced by the test administrator; then specific directions on a tape recording preceded the items presented with intervals of 2 seconds working time for both addition and subtraction. The intervals were based on previous studies in this area (Romberg, 1975). The children wrote their answers in designated spaces, leaving spaces for unknown facts empty. There was a short break between the two subtests.

Addition and subtraction algorithms timed subtests. These subtests each contained 24 items. The items were either 2-digit ± 2-digit or 3-digit ± 3-digit (or in a few cases, 2-digit ± 1-digit); 18 items required regrouping, 6 did not. The items were arranged in order of difficulty (see Table 6). For example, 3-digit problems not requiring regrouping preceded 3-digit problems which required regrouping and, for 3-digit regrouping problems, those in which only the ones were regrouped preceded those in which both ones and tens were regrouped. The students were instructed to try each problem in order (the problems were alphabetized) and to go on to the next problem is unable to do a particular example. Six minutes was allowed for each subtest. 3

 $^{^{3}}$ The authors thank James Moser for his assistance in specifying item content and order.



Table 4
Outline of Sentence-writing Free Response Subtest Items

_	Item ID ^a	Form U	Form V	,	Form W
٠.	1A	Sentence-writing 0-20 subt-comparison 11-15	Sentence-writing 0-20 add-part part whole 11-15	`,	Sentence-writing 0-20 subt-simple separating 11-15
· 		Sentence-writing-0-99 add-part part whole 0-99	Sentence-writing 0-99 subt-simple separating 0-99		Sentence-writing 0-99 subt-comparison 0-99
•	3C	Sentence-writing 0-99 subt-join-addend 0-99	Sentence-writing 0-99 subt-part part whole-addend 0-99		Sentence-writing 0-99 add-simple joining 0-99
;	4D	Sentence-writing 0-20 add-simple joining 11-15	Sentence-writing 0-20 subt-join-addend 11-15	,	Sentence-writing 0-20 subt-part part whole-addend 11-15

^aThe numeric ID refers to the items as they are labeled in the computer printout reproduced in Appendix B. The alpha ID refers to the actual tests (see Appendix A).

Table 5

Outline of Addition and Subtraction Facts

Recall Items--Speeded Subtests

			
Item ID ^a	Form U	· Form V	Form W
	Addition Facts	Recall Subtests	•
√ 1 C	1 + 5*	3 + 1	. 2 + 4
2D	3 + 2	2 + 5	6 + 3
3E	4 + 4	1 + 6	5 + 2
4F	3 + 6	7 + 2	2 + 3
. 5 G	4 + 3	2 + 6	5 + 0
6H .	6 + 2	3 + 5	1 + 3
71	5 + 8	4 + 8	9 + 2
8 J	6 + 9	3 + 7	6 + 6
9K	9 + 3	5 + 9 .	4 + 7
10L	5 + 7	6 + 8	7 + 6
11M	8 + 39	8 + 7	9 + 7
12N	3 + 8	4 + 9 .	6 + 4
	Subtraction Fac-	ts Recall Subtests.	
` 1C ~	5 - 1	7 - 1	3 - 2 -
- 2D	9 - 2	8 - 4	6 - 4
3E	. 8 - 7	9 - 5	. 9 - 1
4 F	5 - 3	7 - 4	. 7 - 3
	. '7 - Ĝ	8 ~ 6	6 - 1
• 6н	8 - 5	4 - 3	7 - 5
7 I	14 - 7	11 - 2	10 - 4
8J '	12 - 5	13 - 8	13 - 9
. 9K	11 ~ 8	12 - 7	14 - 8.
10L	13 - 7	. 15 - 9	11 - 7
· 11M	12 - 9	10 - 2	12 -4
12N	15 - 8	16 ~ 7	17 - 9

The numeric ID refers to the items as they are labeled in the computer printout repreduced in Appendix B. The alpha ID refers to the actual tests (see Appendix A).

Table 6

Item Content of Addition and Subtraction Algorithms Timed Subtests

Forms U. V, and W

Type of Problem	Number of	Items
Addition Subtest	,	
2-digit without regrouping	3	•
3-digit without regrouping	3	•
2-digit + 1-digit with regrouping	3	. *
2-digit with regrouping	3	٠.
3-digit with regrouping in ones	3	•
3-digit with tegrouping in tens	3	
3-digit with regrouping in ones and tens	3	
3 2-digit addends with regrouping	3	
Subtraction Subtest		•
2-digit without regrouping	3	. ,
.3-digit without regrouping	3	
2-digit - 1-digit with regrouping	- 3	
2-digit with regrouping		<i>r</i> .
3-digit with regrouping in ones	`3	
3-digit with regrouping in tens	3 `	,
3-digit with regrouping in ones and tens	~ 3	
3-digit with regrouping in ones and tens, zero(s) in minuend	3	4

Data Collection Procedures

Test Groups

Following the matrix sampling plan described earlier, students in each class were randomly assigned to one of three test groups containing 11-12 students per group in school 3 and 25-26 per group in school 1.

The test groups were assigned to one of the three test forms (U, V, W) according to the schedule in Table 7. Since there were two test times, each student took two of the three forms once. However, since forms U, V, and W were also used in grade 2 (spring), each student had taken one of the three forms previously. Certain items also appeared in the grade 1 and 2 (fall) test forms, so that students would have taken these items at least twice and in some cases three times before. Because of absences and student mobility, the number of students actually tested after each topic varied somewhat. Also, because the classes moved at different paces through the topics, particularly where there was homogeneous grouping, it was not always possible to test an entire test group at one sitting:

Tab le 🚶

Assignment of Students to Test Form

Test Group	Administration Time				
	A-3	A-4			
Test	Form Asaign	ment			
1 .	√υ '	/ W			
2	· v	Ū			
. 3	W	Λ,			

Schedule

The achievement monitoring tests were given as soon as possible after each topic was completed. Since instruction in Topic A-3 took about three weeks and was followed by an intervening DMP topic which was not a pert of the study, there was a six week interval between administrations.

Procedure

The tests were administered by Center staff members in one 40 minute sitting during the regular mathematics class periods. The practice of having Center administrators provided uniformity in administration procedures, relieved the teachers from this responsibility, avoided later "teaching to the test," and freed the teacher to participate in interviews with other Center staff.

Since most students had already participated in nine similar test sittings in grades 1 and 2 (see Buchanan & Romberg, 1982a), there was little administrative difficulty in giving the tests. Students were familiar and comfortable with most administrators and the general procedure as well as the format and most items or item types. The algorithm timed subtests had not been administered until A-1. Perhaps because of their novelty, most students enjoyed the challenge of completing these subtests in the allotted time. However, in general the familiarity with the rest of the test had a negative effect since some students had become increasingly bored by the repetitive testing. The teachers were helpful in motivating the students but nonetheless some were test-weary.

As described previously, the multiple-choice questions were read aloud. Most children had little problem following along. Pacing the multiple-choice subtest was at the administrators' discretion, with the general policy being to move the test along by encouraging children who were pondering at length to "mark the puzzled face." Apparently because of this option, the children did not appear to be discouraged by the few items that they had not met in formal instruction at the time.

One problem occurred during the free-response sentence-writing subtest which may have negatively affected performance on certain items.

Despite reminders, some students failed to listen to the entire verbal story before beginning to write the number sentence. Since the numbers in the written sentence must be reversed from their order in the story for the comparison and join-addend situations, errors resulted when students did not correct themselves after starting the sentence with the first number they heard.

The taped subtests could not be stopped once started; however, examination of the response spaces showed that almost all children kept their place well. Even though there was only 2 seconds' working time between items, students were able to count out answers on their fingers, so that the responses represent a mixture of facts actually committed to memory and "facts" determined during the test. Some children expressed enjoyment in doing the recall tests, but for some the pressure of a timed test was continually frustrating.

The algorithm timed tests were fairly enjoyable for most students. When unable to use the addition or subtraction algorithm correctly, they

were not deterred from completing the majority of the problems using an invented algorithm, usually "buggy."

Results

Scoring the Tests

Subtest statistics and item parameters for each form were computed for all subtests at each administration time using the LERTAP program (Nelson, 1974). Scores representing progress on the objectives were then created for each administration by combining in a single score across forms the proportion correct for all individual items related to that objective; similarly, scores for the composite objectives incorporated the scores for all objectives related to the same content area. Thus, rather than item difficulties, or p values, what might be called "objective difficulties" were calculated to represent group progress toward mastery of the objectives. Since under the matrix sampling plan most objectives were represented by items on at least two and usually all three forms, the "objective difficulties" at any one test time were less affected by possible bias in the random assignment of students to test group than the item and subtest statistics.

Subtest and Item Statistics

Although the results by objective are of primary interest in the study, a brief report of the subtest and item results is offered first as back-ground. The multiple-choice subtest was not developed as a standard norm-referenced measure but rather as a criterion-referenced test with each

item on any one form assessing mastery of a specific objective. Therefore, the total score on the subtest is an aggregate measure of performance on several objectives. Also, rather than the usual expectation that about half of the students would respond correctly to each item, it was expected that almost none, some, or almost all of the students might answer correctly depending on the status of instruction at the time of the test.

Another factor affecting the subtest and item data for the multiple-choice subtest was guessing. The "puzzled face" or "I haven't learned this yet" option was offered to prevent random guessing but guessing still occurred. Another factor affecting the item and subtest analyses for all but the algorithm subtests was the relatively short test length. The small population of students tested was a factor affecting all analyses.

Tables 8-12 report the multiple-choice and recall subtest statistics for all forms and administration periods for the total population. Information included is the number of individuals tested, number of items, mean, standard deviation, highest and lowest score, Hoyt estimate of reliability, and the standard error of measurement. Since the sentence-writing subtest had only four items per form, subtest statistics are not reported.

The means and standard deviations indicate that the three forms were about equivalent in difficulty within each of the two administration periods. The reliabilities for the multiple-choice subtests ranged from .45 to .66 which is somewhat low but since the means were high and the tests were essentially criterion-referenced posttests, they are probably satisfactory. For the addition and subtraction recall subtests, the respective reliabilities ranged from .52 to .77 and .58 to .72. The reliabilities for the addition algorithm subtests ranged from .68 to .88 with the exception of Form U at A-4 for which the reliability was .51.

Table 8

Objectives Subtest Statistics for Forms U, V, and W,

for Two Administration Times

Administration Time	Form	Number of Individuals	Number of Items	Mean	s.D.	Highest Score	Lowest Score	Hoyt Est. r	S.E.M.
	.ij ·	31	14	11.00	1.88	14	· 5	.60	1.14
A3.	. v .	30	14	12.10	1.49	14	· *9	.45	1.06
•	W	29	14	11.55	1.48	14	8	.46	. 1.04
	· U	32	14	12.72	1.59	, 14	7 .	* .66	.90
A4 .	v	31	14	11.94	1.69	14	8	.55	1.09
•	W	31	14	11.97	1.72	14	8	.60	1.05

Table 9

Addition Facts Recall - Speeded Subtest Statistics for_

Forms U, V, and W for Two Administration Times

Administration Time	Form	Number of Individuals	Number of Items	Mean	s.D.	Highest Score	Lowest Score	Hoyt Est. r	S.E.M.
		•					tr.		
	ឞុ	31	12	10.48	1.67	12	6	.66	.93
· A3	v .	30	12	10.77	1.85	12	4	.77	.86
	W	, _ 29 · ·	12	11.48	1.09	12	. 8 .	.66	.61
	บ	32	12	11.12	1.21	12	. 8	.52	80
									•
A4 .	V	31	12	10.84	1.44	12	6	58	.89
,	W	31	12	11.55	.96	12	8	.62	.57

Table 10

Subtraction Facts Recall - Speeded Subtest Statistics for

Forms U, V, and W for Two Administration Times

Administration Time	Form	Number of Individuals	Number of Items	Mean	S.D.	Highest Score	Lowest Score	Hoyt Est. r	S.E.M.
/	ប	31	12	9.94	1.82	12	5	.62	1.07
A 3	V	. 30	12	10.37	1.52	_12	7	58	.94
	W	29	1.2	9.97	2.03	12	4	.72	1.03
3	υ	32	12	10.72	1.55	12	7	.65	.88
A4	v	31	12	10.90	1.47	12	8	.62	.86
	W	31	12	10.65	1.60	12	6	.62	.94

Addition Algorithms - Timed Subtest Statistics for

Forms U, V, and W for Two Administration Times

Administration Time	Form	Number of Individuals	Number of Items	Mean	S.D	Highest Score	Lowest -Score-	Hoyt Est: r	s.e.m.
	U .	- 31	24	18.94	3.68	24	12 *	.83	1.48
, A3 ·	v į	30	24	18.47	4.46	24	. 6	.87	1.56
	. W	29	24	17.59	3.81	23	10	.84	1.51
	U	32	24	21.75	1.81	24	1.7	.51	1.25
. A4	v	. 31	24	19.32	.,4.38,	24	7	.88	1.50
•	W	31	24	20.65	2.65	24	['] 14	.68	1.48

Table 12
Subtraction Algorithms - Timed Subtest Statistics for
Forms U, V, and W for Two Administration Times

Administr Time		Form	Number of Individuals	Number of Items	Mean	S.D.	Highest Score	Lowest Score	Hoyt Est. r	S.E.M
	. 😉	U	31	24	12.00	4.91	, =22	4	.89	1.61
A3	` ,	·V	30 .	24,	13.47	4.42	20	. 0	.87	1.55
		W	29	24	11.79	5.49	. 21	1	.92	1.53
		\ v	32	24	16.06	3.97	22	6	.85	1.52
, A4	,	v	. 31	24	13.90	5.41	. 24	0	.91	1.57
		w	31	24	14.45	, 5.18	23	, 6 [°]	^.91	1.48

ERIC*

The subtraction algorithm subtest reliabilities were .85 to .92. The algorithm subtests contained more items that were still difficult at ... A-3 and A-4 so that somewhat higher reliabilities than for the multiple-choice and recall subtests would be expected.

Item statistics for all subtests (including the sentence-writing subtest) for all forms and administration periods appear in Appendix B. The tables include the number and percentage of students selecting each response (the p-value or item difficulty), the point-biserial and biserial correlations with the subtest and the total test, and the average subtest and total test scores for individuals selecting the correct response.

For the multiple choice subtest the p-values for 24 of the 42 items demonstrated an increase from A-2 to A-3, 10 remained constant (+ 5%), and 8 decreased. (A-2 item data were reported in Buchanan & Romberg, 1982a and are discussed here to provide a point of reference for A-3 data.) Between A-3 and A-4 there was less room for growth. P-values for 15 items increased, 19 remained the same, and 8 decreased. Of the 42 items, 15 had p-values >90.0% at A-2; 13 of these p-values remained \(90.0\tilde{\gamma} \) at A-3. At A-3 there were a total of 22 items with p-values \(90.0\tilde{\gamma} \); 19 stayed >90.0% at A-4. There were a total of 27 items with p-values \(90.0\tilde{\gamma} \); 19 stayed >90.0% at A-4.

The multiple-choice items associated with the introduction of the subtraction algorithm showed the most interesting and dramatic changes in p-values. For example, p-values for item, 14P in Form V which contained 85 the problem - 59 increased from 3.2% at A-2 to 86.7% at A-3. The choice

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of distractors is illuminating. At A-2 71.0% of the students chose the solution (34) resulting from a common "buggy" algorithm; at A-3 conly 13.3% selected this distractor. At A-4 this high level of performance was maintained with a p-value of 90.3%. The other subtraction, item requiring regrouping (item 14P in Form W) was also difficult at A-2 when the p-value was 36.7%. After the introduction of the algorithm at A-3, the p-value increased to 75.9% and thereafter to 80.6% (A-4). In this case the distractor usually chosen was 37, the result of applying the reverse operation. It was selected 46.7% of the time at A-2 and 17.2% at A-3. There were also notable increases in p-values for some of the sentence-writing and problem-solving items containing subtraction vegbal problems for both numbers 0-20 and 0-99. These will be discussed in the section on results for the objectives.

The three modifiple-choice items assessing notation 0-99 for the ordering/place value area were especially difficult. For example, successive p-values for item 8J in Form W were 36.7%, 10.3%, and 32.3%. These items required both regrouping (in order to rename numbers) and in two cases knowledge of DMP notation. Probably they did not appropriately reflect instruction which stressed simple recognition or naming of the place value of digits.

Some of the items for subtraction situations in the free-response sentence-writing subtest also exhibited substantial change in p-values from Λ -2 to Λ -3 to Λ -4. These p-values will be discussed in connection with the objective data.

P-values for the individual items (basic facts) in the two recall tests fell into two groups at A-1 and A-2 corresponding to the facts

with sums/minuends 4-9 and 10-18, or "easy" and "hard" facts. P-values for the "easy" (acts for both addition and subtraction were >93.1% in all but one case; three-fifths of the time the p-values were 100.0%. There was more variation for the "hard" facts. The addition "hard" facts p-values ranged from 61.3% to 100.0% with most scores fairly evenly distributed in the 75-100% area. Subtraction "hard" facts had p-values very evenly distributed from 54.8% to 96.8%. P-values for most items improved steadily from S-6 to A-1 and A-2, except of course for those with very high initial values. These were maintained or changed negligibly. There was some effect of item position on p-values in the recall subtests, but this was not systematically examined since the items were randomly ordered and the aggregate scores for all items associated with the objective are of primary interest in the study.

The p-values for the algorithm subtests were related to item type and position in the test. Since the items were arranged in order of difficulty, some students were unable to do or never attempted items near the end of the test. For example, an early item (item 2C, Form V) for subtraction with two-digit numbers requiring no regrouping had p-values of 96.7% at A-3 and 96.8% at A-4. In contrast, a later three-digit subtraction regrouping item (item 19T in Form) had successive p-values of 13:3% and 19.4%.

The biserial correlations (with the subtest) for the majority of items were adequate or better (>.30) for the correct response and negative (-.20) for incorrect responses though there were some irregular biserials particularly for very easy items on which good students tended to be careless. The "puzzled face" option in the multiple-choice subtest

was used appropriately as indicated by the biserials for this response choice, which were almost always strongly negative. That is, children who chose this response for particular items also had low scores on the total subtest.

The nonseparating subtraction sentence-writing items for both 0-20 and 0-99 included one or two distractors which were addition sentences, most of which had been powerful distractors in preceding topics (see Buchanan & Romberg, 1982a). However, except for the subt-join-addend 0-20 item. item 11M in Form U, the attractiveness of these distractors receded considerably at the A-3 test time, perhaps due to the emphasis on subtraction problems in connection with the algorithm. For the exceptional item (see Table 13), the pattern was finally broken at A-4, though not completely. The power of the sentence-writing reverse operation distractor may be related to the tendency shown in the individual interviews to use additive strategies such as counting up from a given number or adding on with manipulatives in solving some subtraction verbal problems, particularly the comparison and subt-join-addend problems.

See Anick, Buchanan. Carpenter, Moser, & Steinberg, 1981; Anick & Moser, 1980; Anick & Moser, 1981.

Progress on the Objectives

In this section the results of aggregating the item data to create scores representing progress on each objective will be discussed. The objective data ("objective difficulty") will be related to the instructional program the students experienced. The proportion correct for each individual objective and for the composite objectives for the total population at all administration times is reported in Table 14; results for each school and class appear in Appendix C. The A-1 and A-2 test

Table 13

Item Statistics for the Sentence-writing 0-20, subt-join-addend (11-15) Item, Item 11M, Form U^a

Test Time	Response Choice	Proportion	Biserial Correlation	Mean Subtest Score
	(1) 8 - 6 = [] (includes solution)	2.9	-,59	· 8.00
A2	(2) 14 + 8 = [] (reverse operation)	52.9	76	9.67
N=34	(3) 14 - 8 = (correct response)	- 41.2	-91 `	12.71
-	. (4) puzzled face	2.9	18	10.00
	(1) $8 - 6 = \square$ (includes solution	6.5	, 28	12.00
A-3	(2) $14 + 8 = \square$ (reverse operation)	58.1	45	10.44
N=31	(3) $14 - 8 = \square$ (correct response)	32.3	.68	12.40
	(4) puzzled face	3.2	-1.45	5.00
1		V		
•	(1) $8-6=\square$ (includes solution)	6.3	07	12.50
\A-4	(2) 14 + 8 = □ (reverse operation)	18.8	- <u>,</u> 76	11.00
N=32	(3) 14 - 8'= [] (correct tesponse)	. 71.9	.85	13.35
	(4) puzzled face	3.1	-1.06	9.00

The item read: This number story is about a plant. Mark the number sentence that tells how to find the answer. A plant was 8 cubes tall. It grew some. Now it is 14 cubes tall. How much did it grow?

Progress Toward Objectives Across Administration Times as Represented by Proportion of Items Answered Correctly for Total Population

- ,	Number ~	<u>Re</u>	sults for	Objectiv	/es ⁴	Number .	Results	for Compo	site Obje	ctives
Description of Objectives	of Items	¬ A-1	A-2	A-3	A-4	of Items	A-3	A- 2	A-3	A-4
Prerequisite Instructional Objectives					. •	•				•
Nucerousness							}	•• .		
writes 0-99	3	86.2	88.4	93.3	92.6	÷	ļ			
represents 0-99 .	3	88.3	94.7	92.2	96.8	, 6	87.2	91.6	92.8	94.7
Ordering, Place Value							\		•	٠.
orders 0-99	3	89.4	83.2	86.7	97.9		}			
notation 0-99	3	18.1	26.3	21.1	39.4	6	53.7	54.7	53.9	68.6
Instructional Objectives for S.A Topics	r				•		ן	\		
Sentence-Writing 0-20	1							\		
add-simple joining (8)	1	90.3	93.3	100.0	93.5			1	•	-
subt-simple separating (A)	1	96.9	96.8	96.7	96.8		-	•		
subt-part part whole-addend (B)	1	75.0	54.8	90.0	83.9			-		
add-part part whole (A)	1	96.8	100.0	96.8	100.0					
subt-comparison (A)	1	71.0	70.0	86.2	83.9					
aubt-join-addend (B)	1	51.6	41.2	32.3	71.9	6	80.3	75.8	\$3. 3	88.3
Seatence-Writing (Free Response)					•					
add-simple joining	1	100.0	94.1	96.8	96.9					
subt-simple separating	ī	96.8	93.3.	100.0	100.0					
subt-part part whole-addend	• ī	80.6	66.7	82.8	. 90.3					
add-part part whole -	ī	96.9	100.0	100.0	100.0	•				
subt-comparison	$\bar{1}$	51.6	52.9	58.1	87,5	*,	•.			
subt-join-addend	ī	62.5	54.8	70.0	J1.3	6	` 81.4	76.8	84.4	- 89.4

baunisnos

61

..... 59.

Table 14 (continued)

	•••	Ree	ults for	Objective	ea .		Resulta	for Compo	maite Obj	ectives
Description of Objectives	Number of Items	A-1	A-2	A-3	A-4	Number of Items	A-1.	A-2	A-3	A-4
Sentence-Writing 0-99						•				
add-simple joining (B)		90.6	90.3	100.0	96.8					
Subt-simple separating (A)	/1	90.3	91.2	96.8	100.0					
subt-part part whole-addend (8)	J 1	74.2	73.5	77.4	90.6					
edd-part part whole (A) * *	4 1	74.2	90.0	96.6	100.0		•		•	
subt-comparisum (A)	\1	46.9	38.7	86.7	74.2					•
aubt-join-addend (B)	<i>\p</i>	41.9	46.7	62.1	67.7	G	69.7	72.1	86.7	88.3
Sentence-Writing 0-99 (Free Response)	•		٠.							
add-simple joining	1	90.3	100.0	100.0	96.8				•	
subt-simple separating	1	100.0	90.3	96.7	100.0					
aubt-part part whole-oddend	<u>ī</u>	78.1	64.5	93.3	96.8		•			
add-part part whole	ī	100.0	94.1	96.8	96.9			•		
subt-comparison	ī	35.5	46.7	79.3	77.4				•	
subt-join-addend	ī	45.2	41.2	51.6	78.1	6	75:0-	72.6′_	_86.1	91.0
Algorithms										
edd 0-99	3 c	48.9	86.3	93.3	97.9			17		•
aubt 0-99	3 ^c	42.6	37.9	87.8	90.4	6	45.7	62.1	90.6 ,	94.2
Mantana antonat Milandura										
Noninstructional Objectives	• •					,				
Problem-Solving 0-20										
add-simple joining (B)	1	100.0	96.7	100.0	96.8					
subt-Simple separating (A)	1	90.3	94.1	87.1	96.9					
subt-part part whole-addend (B)	1	78.1	77.4	100.0	90.3	_	•			•
add-part part whole (A)	1	64.5	96.7	100.0	100.0	•				
subt-comparison (A)	ī	59.4	77.4	86.7	93.5					
subt-juin-addend (B)	ī	90.3	94.1	80.6	93.8	6	80.3	89.5	92.2	95.2
•					75.0	·	,	,		
roblem-Solving 0-99	_									•
add-simple joining (B)	1	67.7	79.4	93.5	87.5		٠,			
subt-simple separating (A)	1	29.0	16.7	65.5	77.4					
subt-part part whole-addend (B)	1 ′	29.0	13.3	69.0	74.2				•	•
add-part part whole (A)	1,4	50.0	60.6	100.0	87.1					
aubt-comparison (A)	14	67.7	76.5	58.1	84.4					
subt-join-addend (B)	1	65. 6	71.0	80.0	77.4	6	51.6	57.4	77.8	81.4

continued

....

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Table 14 (continued

,	Maria an	Res	ults for	Objective	Results for Objectives		Results for Composite (
Description of Objectives	Number of Items	A-1	A-2	A-3	A-4	Number of Items	A-1	A-2 .	- A-3	.A-4
Recell of Basic Facts (Speeded Tests) add 0-20 aubt 0-20			,		·	'36 36	79.7 64.1	80.7 67.1	90.8 84.1	93.1 89.6
Algorithms (Timed Tests) add 2-digit, no regrouping add 2-digit, regrouping	. 9 18	90.4 30.5	94.7 72.3	96.7 90.2	97.2` 93.6	27	50.5	7 9. 8	92.4	94 .8
add 3-digit, no regrouping add 3-digit, regrouping .	9 27	86.5 15.4	86.0 41.5	97.4 _69.4	97.2 83.2	36	33.2	52.6	76.4	86.7
3 2-digit addends, regrouping	9	3.9	18.6	28.9	55.0	9	3.9	18.6	28.9	55.0
subt 2-digit, no regrouping subt 2-digit, regrouping	9 18	86.2 7.8	81.4 7.4	93.7 68.9	96.5 80.7	27	33.9	32.0	77.2	85.9
subt 3-digit, no regrouping subt 3-digic, regrouping	9 36	74.1 1.0	75.4 .7	93.0 22.4	95,4 35,2	45	15.6	15.6	36.5	47.2

tote. For those objectives for which there are three items, the number of subjects represented in the ptoportion correct at a particular test time is ascertained simply by summing the R's for the three forms; however, when there are more or less than three items, the R is increased or decreased by 29-34 subjects per item.

Number of Subjects

		A-1	A-2	A-3	A-4
Form U	И -	31	34	31	32
Porm V	И -	32	31	30	31
Fore W	N -	31	30	29	31

A-1 and A-2 data were collected in the apring semestar of Grade 2 and are included here to provide a frame of reference for the A-3 and A-4 data, bunless otherwide indicated, items were multiple choics.

Cone of the three items did not require regrouping.

dThis item did not require regrouping.

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ol 63



data which were gathered in the spring semester of grade 2 are included in Table 14 as points of reference for the discussion (see Buchanan & Romberg, 1982a). As noted previously, only the data for individual objectives are of interest here—data for the composite objectives were prepared for subsequent analyses.

The sentence-writing objectives for the S and A topics were not stated in terms of particular verbal problem types in the instructional materials, but for purposes of achievement monitoring each type was treated as an individual instructional objective. This was also true for the noninstructional problem-solving objectives. Since each verbal problem type is represented by only one item, "objective difficulty" is the same as a "p-value" or item difficulty and therefore the results for sentence-writing and problem-solving must be considered with caution. The algorithm 0-99 objectives also were stated in general terms in the instructional materials but were subdivided for assessment purposes according to whether or not regrouping was required. Again, this was true for the 0-999 algorithm objectives as well.

Numerousness; ordering, place value. Instruction on the four prerequisite instructional objectives related to the numbers 0-99 had occurred between the S-6 and A-1 test times. At A-1 and A-2 three of the four objectives had virtually been mastered. Mastery (or nearmastery) status was maintained at A-3 and A-4 for the three objectives:

A proportion correct >90% is the criterion for mastery. While it is recognized that not every student will have mastered the objective using this criterion, it allows for measurement error and assures that most students have reached mastery.

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writes 0-99, represents 0-99, and orders 0-99. The fourth objective, notation 0-99, was assessed by items requiring students to apply the unique DMP notation in regrouping numbers; these items apparently were overly difficult and/or did not adequately reflect instruction which emphasized simple naming of numbers using the notation rather than regrouping (renaming) procedures. At A-3 and A-4 the scores for this objective were 21.1% and 39.4%, reflecting little substantial improvement from A-1 and A-2 (18.1%, 26.3%).

Mastery of the prerequisite objectives was considered necessary prior to work on the algorithms. Although performance on one objective was (or appeared to be) poor, it is unlikely that this affected algorithmic performance at all since the latter was excellent. Probably the high scores on the other three prerequisite objectives correctly reflected achievement.

Sentence-writing 0-20. The sentence-writing data in Table 14 are annotated by the labels described earlier, Sets A-and B, according to whether or not item characteristics such as syntax corresponded to interview tasks. This distinction will be ignored here but may be useful in future analyses relating interview and schievement monitoring data.

The two addition and simple separating sentence-writing 0-20 objectives had been mastered at the beginning of grade 2 (test time S-4) and this status was maintained throughout grade 2 (to test time $\Lambda \cdot 2$). As expected, mastery 1 vel was continued in grade 3 at $\Lambda - 3$ and $\Lambda - 4$.

The other three subtraction objectives, the two addend and the comparison situations, had not been mastered at the end of grade 2

(A-2). Perhaps due to the emphasis on subtraction verbal problems in connection with the work on the subtraction algorithm in A-3 and A-4, there was overall and in some cases dramatic improvement from A-2 to A-4 on all three objectives in both the multiple-choice and free response test modes. Mastery was approached (and reached in one case) at A-4 for the subt-part part whole-addend and the comparison objectives for which A-2, A-3, and A-4 multiple-choice scores were, respectively, 54.8%, 90.0%, 83.9% and 70.0%, 86.2%, 83.9%. Similarly, successive free response scores for these two objectives were 66.7%, 82.8%, 90.3% and 52.9%, 58.1%, 87.5%. Although mastery level scores were not attained at A-4 for the subt-join-addend objective, there was growth in both test modes for this objective also; e.g., from 41.2% (A-2) to 71.9% (A-4) in the multiple choice context and from 54.8% (A-2) to 61.3% (A-4) in the free response context.

Mastery of all sentence-writing 0-20 objectives had been expected after the completion of the S topics in the fall semester of grade 2. A year later much improvement had been made on the more difficult subtraction objectives but they still had not been formally mastered by all students (except for the subt-part part whole-addend objective in the free response mode).

Sentence-writing 0-99. The pattern of performance for sentence-writing with larger numbers was somewhat similar to that for smaller numbers from A-2 to A-4. The two addition and subt-separating objectives had been mastered in both modes at A-2 (or earlier for some objectives/ modes) and this status was maintained at A-3 and A-4. Probably due

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to the instructional emphasis on subtraction sentences and algorithms, there was much improvement from A-2 to A-4 for the three remaining subtraction objectives, though only the subt-part part whole-addend objective was formally mastered at A-4. Scores for A-2, A-3, and A-4 for the multiple-choice and free response modes for this objective were, respectively, 73.5%, 77.4%, 90.6% and 64.5%, 93.3%, and 96.8%. Growth on the comparison and subt-join-addend objectives was striking for both test types. Successive scores were 38.7%, 86.7%, 74.2% (multiple-choice) and 46.7%, 79.3%, and 77.4% (free response) for the comparison objective. For the subt-join-addend objective, the multiple-choice scores were 46.7%, 62.1%, 67.7% and the free response scores were 41.2%, 51.6%, and 78.1%.

Mastery of all of these sentence types had been expected at A-4. However, since the comparable objectives for the numbers 0-20 had not been mastered, it is not too surprising that sentences with larger numbers also were not mastered for the comparison and subt-join-addend objectives. Because scores for the two test modes for the subt-part part whole-addend 0-99 objective were slightly higher than their counterparts for the 0-20 objective, the objective for the larger numbers could be said to be mastered in both modes whereas the comparable objective for smaller numbers was mastered only in the free response mode.

Algorithms. The three multiple-choice items for each algorithm objective (addition, subtraction) provided a brief summary assessment of algorithmic skill with a small sample of problem types. (The times

algorithm tests, discussed below, provided a comprehensive and free response measure of algorithmic skill.) One of the three items in 53 67 each case did not require regrouping, i.e., +44, -42. One of the two items which required regrouping also could readily be solved by $16 \quad 32$ counting; i.e., +44, -5. The third item was a standard regrouping problem, i.e., +64, -59.

The test results clearly mirror instruction. After the introduction of addition algorithm at A-2, students did very well on this objective (86.3%) and further practice at A-3 and A-4 seemed to enhance performance which improved to 93.3% and 97.9%.

The subtraction algorithm had not been covered at A-2 which status (37.9%) on the objective indicated. After introductory instruction during A-3, there was striking growth to 87.8% and 90.4% at A-4. Students obviously grasped the algorithm and were able to apply it in the multiplechoice context.

Problem-solving 0-20. The problem solving items required the child to select the correct answer for the verbal situations. Again the data in Table 14 are labeled for Sets A and B though this distinction is not of interest here. Only the subt-part part whole-addend and comparison problem-solving 0-20 objectives had not been mastered at the end of grade 2 ('''): scores for both were 77.4% at that time. At A-3 mastery status we had for the addend objective (100.0%) and approached for the comparison objective (86.7%). Both had been mastered at A-4 (90.3%, 93.5%) though the addend score dropped somewhat. Scores for the other four objectives remained at or near mastery at A-3 and A-4,

with the exception of a score of 80.6% at A-3 for the subt-join-addend objective. It is interesting that while two of the three nonseparating subtraction sentence-writing 0-20 objectives had not been mastered at A-4 (though scores were fairly high) the parallel problem-solving 0-20 objectives had been achieved.

Problem-solving 0-99. It is difficult to compare performance on the six problem-solving 0-99 objectives as a group because the items for two of the objectives did not require regrouping—the subt-comparison and subt-join-addend item—so these objectives were no doubt relatively less difficult than they might have been. For the two objectives with items not requiring regrouping, there was slight improvement from A-2 to A-4 though not co mastery status. The A-2 and A-4 scores for the comparison and subt-join-addend objectives were, respectively, 76.5% and 84.4%, and, 71.0% and 77.4%.

Probably due to instruction in the addition algorithm, performance at A-2 on the two addition objectives was relatively high (79.4% for simple joining and 80.6% for part part whole) and reached mastery level at A-3 (93.5%, 100.0%). Scores decreased slightly at A-4 (87.5%, 87.1%) but it can be safely concluded that these objectives were mastered.

Algorithm instruction for subtraction at A-3 undoubtedly influenced performance on the subt-simple separating and subt-part part whole-addend objectives for which scores made striking increases from A-2 to A-3 and then modest continued growth at A-4. For the separating objective, the scores were 16.7%, 65.5% and 77.4%; for the addend c tve, they were 13.3%, 69.0% and 74.2%.

As for numbers 0-20 performance on the sentence-writing 0-99 objectives not yet mastered (comparison, subt-join-addend) was generally less adequate than that on the comparable problem-solving objectives though, interestingly, the difference was not as marked. Also, for the 0-20 objectives, the subt-join-addend situation showed the clearest discrepancy between sentence-writing and problem-solving skill while for the 0-99 objectives it was the comparison situation.

Recall of addition and subtraction facts (speeded tests). Increasing the speed with which students could respond to open sentences (basic facts) was not a formally stated objective of instruction for the A topics. However, it was anticipated that in the course of instruction teachers would employ standard techniques for facts recall such as flash cards drills to varying degrees. This practice plus use of the facts within two-digit computation was expected to produce improved facility in recall.

Students had apparently reached a plateau in performance in the latter half of grade 2 when S-6, A-1, and A-2 test scores for addition and subtraction facts recall under speeded conditions were, respectively, 79.1%, 79.7% and 80.7% (add), and, 65.3%, 64.1% and 67.1% (subt). Due perhaps to a combination of maturity, formal practice on the facts, and informal practice during all cithm work, scores improved in grade 3 for both addition and subtraction at A-3 to 90.8% and 84.1% and thereafter, at A-4, to 93.1% and 89.6%. Thus, these objectives had been essentially mastered at midyear in grade 3.

Although the algorithm objectives as assessed under timed conditions were somewhat arbitrarily classified as noninstructional objectives, these tests were essentially a free-



response measure of the regular, instructional algorithm objectives for the numbers 0-99, particularly since so many students completed all items. The timed tests also included 3-digit numbers (algorithms) which were not covered in instruction; in this case the classification is more relevant.

In Table 14 the results for the addition and a paraction algorithm objectives are reported separately for regrouping and nonregrouping problems for the numbers 0=99 and 0-999. A further breakdown of the data by problem type (e.g., 3-digit + 3-digit with regrouping in tens only) will be given later.

At the end of grade 2 (A-2) status on the four nonregrouping algorithm objectives (add 2-digit, add 3-digit, subt 2-dgit, subt 3-digit) was already quite high (respectively, 94.7%, 86.0%, 81.4%, and 75.3%). Mastery was reached at A-3 and maintained at A-4 for these objectives; A-4 scores were excellent (97.2%, 97.2%, 96.5%, 95.4%) indicating a high degree of computational accuracy.

The addition algorithm with 2-digit numbers was introduced in A-2 and reviewed in A-3 and A-4. Progress was steady from A-2 to A-3 to A-4(72.3%, 90.2%, and 93.6%) and mastery was attained as specified by the program. Although addition with 3-digit numbers was not an objective, students were able to generalize the use of the algorithm and at A-4 the scores for 3-digit addition with regrouping approached mastery (83.2%). (It is probable, however, that some students and/or teachers formally or informally worked on 3-digit computation.) Little progress was made on problems with three addends until this type of problem was introduced in A-4.

The subtraction algorithm with 2-digit numbers was introduced at A-3 as reflected dramatically in the growth on the 2-digit subtraction with regrouping objective from 7.4% at A-2 to 68.9% at A-3. Further progress, to 80.7%, occurred at A-4 though anticipated mastery status was not gained. Some transfer to 3-digit numbers was evident, but much less than for addition. The 3-digit-subtraction with regrouping scores were .7%, 22.4%, and 35.2% for A-2, A-3, and A-4.

In Table 15 the results for all addition and subtraction problem types are reported individually. Also, this table presents data on proportion of items attempted for each item type and the proportion correct of those attempted. The 2-digit problem types were administered in the order in which they appear in the tables; similarly the 3-digit problems were given in that order. However, the 3-digit nonregrouping problems appeared between the 2-digit nonregrouping and the 2-digit problems on the tests themselves (see Table 6).

Examination of the first and third columns of data in Table 15 reveals some interesting results about the relative difficulty of item types. First, it indicates that 2-digit ± 1-digit with regrouping problems for both addition and subtraction tended to be more difficult than the standard 2-digit ± 2-digit regrouping problems, even though the problems involving 1-digit numbers could conceivably have been solved simply by counting. Secondly, it appears that the generalization from 2-digit to 3-digit numbers for the addition algorithm was more pronounced for problems involving regrouping of tens than for those with regrouping of ones since the tens problems were generally

. Relationship Setyeen Trems Attempted and Ileas Assured Cottactly

		for the	¥18ot f	the Tie	ed Tecto							
•			I Correct of Total .					I Attempted of Total				of Ac
٠.	Type of Problem	A-1	A-2	A-3	A-4	· A-1	A-2	A-3	A-4 ·	A-1	, A-2	A-3
			44	ditton	_							
	2-digit without tegrouping	90.4	94.7	96.7	97.2	97.1	97.5.	100.0	100.0	92.5	96.5	96.
	2-digit + 1-digit with rescouping	21.3	63.5	85.9	91.8	\$1.9	86.7	97.0	99.3	27.2	72.4	88.
	2-digii with frerouping	39.7	81.0	94.4	95.4	89.0	92.6	99.3	99.7	43.1	, 84.4	95.
	3-digit without regrouping b	86.5	86.0	97.4	97.2	92.6	93.7	100.0	99.7	93.6	.91.1	97.

In the teers thoughtwee these frems appeared just after the 2-digit without regrouping frems.

3-digit with testouPing in once

3-dille with regrouping in tens

and tene 3 2-digit addends with regrouping

3-digit with regrouping in or

2-digit without regtouping

2-digit with regrouping

3-digic without regrouping b

3-dilly with regrouping in ones

3-diffi with refrouping in tens

3-digit with regrouping in once and tene

Note. There were 9 items for each problem type.

3-digit with regrouping, maro(a) in minuend

2-digit - 1-digit with regrouping

86.2

Subtraction

175.4 . 93.0

A-1 and 6-2 data wets collected in the spring assestat of Grade 2 and are included her; to provide a frame of refetence for the A-3 and A-4 data,

67.8

33.7

10.1

89.0

96.5

79.1

82.3

95.4

\$7.1

\$6.0

19.5

8.2

100.0

74.1

51.8

87.0

54.0

41.4

32.6

100.0

85.5

50.4

70.1

40.2

15.3

85.5

2.0

1.1

2.2

16.1

1.1

1.5

73.0

70,0

93.3

45.1

21.8

0 11.0 17.3.

28.3

easier. This tendency did not occur for subtraction. In general, the relative difficulties appeared to correspond to the predicted order, that is, the order in which the test items were administered.

A time limit of 6 minutes was established for each subtest. Therefore, scores representing percent correct for item types occurring later in the test might have been artificially deflated if few or no students ever reached these items, or if only the less capable students reached them by hurrying through the test, perhaps by applying quick but "buggy" algorithms. Further, if only the more capable students attempted the later items, and it is assumed that the less able students might have done them correctly had they had time to try them, then the scores also might not be an accurate reflection of progress. Of course, it is possible that both the most and the least capable students attempted these problems but for different reasons.

The question is more or less moot for all 2-digit problem types (except the 3 addends) and for the 3-digit nonregrouping problems since the second column of data indicates that 79% or more of these items were attempted at A-1 and A-2 and 95% or more at A-3 and A-4. For these problem types the percent correct scores probably quite adequately reflect the status of the group. This means that the aggregate data for these objectives in Table 14 can also be viewed with confidence. For the 3-digit with regrouping problem types, from 43.3% to 82.1% of the addition problems were attempted at A-1 and A-2 and 86.7% to 98.5% at A-3 and A-4. From 32.6% to 67.7% of the subtraction problems were tried at A-1 and A-2, and from 41.1%

to 91.1% at A-3 and A-4. For some of these problem types the data in Table 15 and Table 14 as well may not fully represent the population but are probably a fairly accurate portrayal, especially if we assume that usually the more capable rather than the less capable students moved through the test faster and that the less capable students would not have done well on the later items.

In summary, at the close of the study, the 2-digit addition algorithm had been mastered as specified by the program and mastery was approached but not obtained for the 2-digit subtraction algorithm, contrary to the expectations of the program. It may be that the relatively short amount of time spent on A-4 contributed to the somewhat inadequate performance on the subtraction algorithm. Even though 3-digit algorithms were not covered in instruction, there was considerable generalization to these skills, even to a mastery level in the case of addition with regrouping and for both addition and subtraction without regrouping.

Conclusion .

In general, the results for the A-3 and A-4 test times reflected the instructional program. That is, dramatic improvement approaching mastery level occurred for the subtraction algorithm with 2-digit numbers. The addition algorithm for 2-digit numbers was mastered as was computation not requiring regrouping for both addition and subtraction of 2-digit numbers. This pattern of growth extended to 3-digit numbers for many problem types even though no formal instruction had been given on them.

There was considerable progress on the problem-solving 0-99 objectives, particularly those involving the subtraction algorithm, though none were

subtraction sentence-writing objectives not mastered at A-2, and one of these objectives (subt-part part whole-addend) was mastered in both the free response and multiple choice modes.

Although the sentence-writing 0-20 and problem solving 0-20.

objectives were not included in instruction during this period, substantial gains were made on the objectives not previously mastered. At A-4 mastery of the two problem-solving 0-20 objectives (subt-part part whole-addend and subt-comparison) not attained at A-2 was reached. Scores for the two comparable sentence-writing 0-20 objectives were virtually at mastery level at A-4; however, the subt-join-addend objective for sentence-writing 0-20 remained difficult. Although students could solve problems of this nature, they still could not produce the corresponding sentence at A-4 in some cases. The recall objectives for addition and subtraction basic facts were mastered. Mastery of the prerequisite objectives for the numbers 0-99 was maintaired for the three objectives previously mastered. The fourth objective was nover reached and was judged inappropriate for the study.

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Appendix A

ADMINISTRATOR'S MANUALS AND STUDENT TESTS

FORMS U, V, W

U

Directions for Administering Achievement Monitoring Test &

Coordinated Study #1 &-#2

General Dimections

Reading the Test. The first part of this test is in multiple choice format and is read aloud to the children. Read the questions exactly as they are printed in the directions; do not paraphrase. Each question is read twice—or the key phrases are repeated after the original question is read. Read the questions at a conversational pace. The second part of the test involves verbal problems for which the child must write, but not solve, a number sentence. Again, you will read the number story twice. The third part of the test is timed and assesses the child's speed and accuracy using the addition and subtraction algorithms. The fourth segment, the basic facts speed test, is administered via tape.

Since many children will not know how to do the majority of the test, especially at the beginning of the year, they will no doubt want to ask questions or want you to repeat items yet again. Please do not allow this--instead, ask them to answer "as best they can" or to mark the "puzzled face" to show they have "not learned this yet." Note also that reading the answers to the children is not permitted.

Since this is a group-administered test, verbal exchanges with individual children can be distracting and interfering—try to establish a policy of not talking and not allowing the children to talk in between questions.

Should the above directions seem unnecessarily stringent, please realize that we are attempting to measure change over time and that we have very few questions on which to base this measurement. The children will take the other forms of this same test at 6 week intervals and then they will repeat the three forms; hopefully each time they will be able to answer the questions more successfully.

Make sure the children mark only one box and that they mark at least one box. Encourage them to use the "puzzled face" by reminding them that this response means "I haven't learned this (how to do this) yet."

Pacing the Test. Try to keep the test moving. Expecially for the number story and algorithm problems it may take a "long" time for the children to figure out an answer. As a rule of thumb, allow the group to work on each question until only one or two children are still working. At that point, if necessary, suggest that anyone still working mark the "puzzled face" box. Then just go on to the next question without waiting longer. The second part of the test, sentence writing, may go slowly. Remind the children

not to solve the problem. The third part of the test is timed and must be administered accordingly.

The last section, the taped basic facts, is a speed test. Once the tape is started, it will not be stopped.

Estimated Administration Times

Part 1 10 min.
Part 2 5 min.
Part 3 15 min.
Part 4 5 min.

Preparations for Testing

The children will need two pencils with erasers. They will not need scratch paper for this test, since they will usine in the "arrow" space. The children's names have been written on the tests in advance; distribute the tests, making sure each child has his/her own test.

Specific Directions

EXAMPLE

SAY: Today we are going to do some work with numbers in this booklet. You learned how to do some parts of the work last year in first grade. You will learn how to do more of the work this year in second grade. We don't expect you to know how to do all of the work today. We will come back again and again while you are in second grade . . . each time you will have learned how to do more of the work.

Find your name on the line. Look at the big box with an X in ityou will answer the questions today by making a big X like this one.

EXAMPLE: A Now find row A. I am going to ask you a question. You will answer by making a big X in one of the boxes. If you haven't learned about the answer yet, make an X in the last box, the one with the puzzled face. [Pause.]

Which box has a circle cut into 4 pieces? Make an X on the box with a circle cut into four pieces. [Pause.] If you haven't learned this yet, make an X on the box with the puzzled face. [Check to see that the children mark only one box in the row.]

Look at the bats and balls in the arrow. Are there more bats, more balls, or the same number? Make an X on the box that tells whether there are more bats, more balls, or the same number.

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Now turn to the next page and fold your booklet.

- [Note: Starting with row C, do not assist the children with the test, except to make sure they are marking only one box . . . and at least one box.
- Look at the apples in the arrow. Make an X in the box Find row C. that tells how many apples there are ... how many apples there are. [Pause.] / Remember, if you haven't learned about this yet, mark the puzzled face.
- Make an X in the box which has Row D. Look at the number in the arrow. that many marbles in it ... that many marbles in it.
- Row E. I am going to read a number story about pencils. I will read the story twice: Listen both times before you mark a box. John had 12 pencils. He gave 7 pencils to Tim. How many pencils did John have left? [Repeat. Allow time for the children to figure out their answers to rows E-H. 1
- Row F. This number story is about collections of cans. For this story, you may write on the Saper if you want to. Debbie has 32 cans in her collection. Her brother Bob has 56 cans. How many more cans does Bob have than Debbie? [Peyeat and give "puzzled face" reminder, if necessary, to move the test along! Also remind them to make an X on their answer, if necessary.]
- Row G. This number story is about bricks. Mr. Brown needs 11 bricks. He has 8 bricks already. How many more bricks should he get? [Repeat.]
- This number story is about books. For this story, you may write on the paper if you want to. The library had 54 books about animals. Then the librarian bought-18 more animal books. How many animal books does the library have now? [Repeat, use "puzzled face" and "make an X" reminders as necessary.]

Turn to the next page.

- ٠I Row I. Look at the numbers in the arrow. They are in order from smallest to largest. What number goes on the line ... goes on the line?
- Row J. Look at the number in the arrow. Make an X on the box that has has another name for the number ... another name for the number..
- Row K. Look at the number sentences. One of the number sentences tells how to find the answer for this story about cards. read the story, make an X on the number sentence that tells how to find the answer. Bill has 4 football cards. He also has 9 baseball cards. How many cards does Bill have altogether?
- Row L. This number story is about candies. Make an X on the number sentence that tells how to find the answer. Kathy had 78 candies. She gave 35 candles to Jim. How many candles did Kathy have left? [Repeat.]
- Row M. This numl story is about a plant. A plant was 8 cubes tall. It grew some. Now _ is 14 cubés tall. How much did it grow? [Repeat.]

N Row N. This number story is about trees. Mark the number sentence that tells how to find the answer. Mrs. Turner had 67 trees. 29 trees were pine trees and the rest were oak trees. How many trees were oak trees? [Repeat.]

Turn to the next page.

- Now 9. Look at the problem in the arrow. What number is the answer ... what number is the answer? [Mention "write on paper" reminder]
- P Row P. Look at the problem in the arrow. What number is the answer ... what number is the answer?

Now we will do some different work. I will read a number story to you. Then I want you to write a number sentence for the story. You don't need to solve the sentence. Just write the sentence the best you can without solving it. Write it on the line.

SALLIA

STORY

- A Joe has 9 whistles. His sister Debra has 15 whistles. I * many more whistles does Debra have than Joe? [Repeat.] --
- STORY B Mike has 48 red leaves. He .' nas 26 yellow leaves. How many leaves does Mike have altogether? [Repeat.]
- STORY C Jill has 29 nails. How many more nails does she have to put with them _____so she has 37 nails altogether? [Repeat:]
 - Jerry had-6 apples. His mother gave him 8 more apples. How many apples did Jerry have altogether? [Repeat.]

[Give the children a short stand up-stretch-touch toes--and so m--"break" here.]
Turn to the next page, the one that says "ADD" at the top.

Be sure you-have the page that says "AD" on it. All the problems on this page are addition problems. Each problem has a letter by it ... A, B, C, D... all the way to V, W and X. When I say "GO". start with problem A, then do B, then C, and so on until I say "STOP!" If you can't do a problem, go on to the next one. Do as many problems as you can before I say "STOP!" Ready? GO! (Allow 6 minutes) STOP! You worked very hard on these problems. You will be learning how to do them faster. (Reassure the child as you see fit.) Now turn to the page that says "SUBTRACI."

Be sure you have the page that says "SUBTRACT." All the problems on this page are subtraction. When I say "GO," start with problem A, then do B, then C... do as many as you can hefore I say "STOP!" Ready? GO! (Allow 6 minutes.) I could tell you tried your best on these problems. You will be learning how to do them faster.

Now turn to the last page.

The work on this page is different. I want to see how quickly you can think of the answers for addition and subtraction problems.

I am going to play a tape-the voice on the tape will say problems, like this: [Play the four sample problems 2+8, 5+6, 7+4, 8+3.] The problems will go very quickly, even faster than when you were in first grade. Today you probably will not know very many answers, but when I come back and we do these problems again, you will know more. Don't feel bad if you don't know the answers today.

We will start with the row of boxes at the top of the page—the ones with capital letters A, B, C The voice on the tape will tell you where to write your answers. Do your best to keep up with the voice. Get your pencil ready. [Start tape.]

Script on Tape: Look at the row of boxes at the top of the page. Find box

A. I am going to say problems like 5 + 4. The answer for 5 + 4 is 9.

So there is a 9 in box A. Find Box B. What is 7 + 1? 7 + 1 is 8. You

write an 8 in box B.

[10 second pause; make sure the children are working on the top row.]

Now I am going to say problems for all the rest of the boxes in the top
rów. I will not stop, so write your answers quickly. If you can't think of
an answer, just leave the box empty. Ready?

Form U

Box C 1 + 5

Box D 3 + 2

Box E . 4 + 4

Box F 3 + 6

Box G 4 + 3

Box H 6 + 2

Box I 5 + 8

Box J 6 + 9

Box K 9 + 3

Box L 5 + 7

Box M 8 + 9

Box N. 3 + 8

6

U

Stop working. You may rest for a moment...then we will work on the bottom row.

[10 second pause]

Ready to listen again? Look at the bottom row of boxes. Find Box A. This time I am going to say problems like 9 - 6. The answer for 9 - 6 is 3. So there is a 3 in box A. Find box B. What is 4 - 2? 4 - 2 is 2. You write a 2 in box B.

[10 second paise--make sure the children are in the bottom row.]

Now I am going to say problems for the rest of the boxes. I will not stop,

so write your answers quickly, If you can't think of an answer, leave the

box_empty--Ready?

Form U

Box C 5 - 1

Box D 9 - 2

Box E '8 - 7

Box F 5 - 3

Box G 7 - 6

Box H 8 - 5

Box I 14 - 7

Box J 12 - 5

Box K 11 - 8

Box L 13 - 7

Box M 12 - 9

.Box N 15 - 8

Stop working. Put your pencil down.

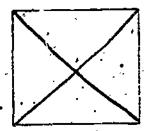
[Stop the tape.]

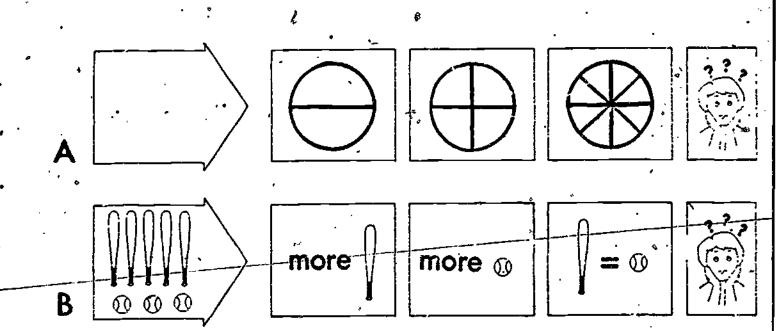
That is all the work we will do today. Remember, we will come again and you will do work like this again. Each time I come, you will be able to do more of the work.

[Collect the bookletr.]

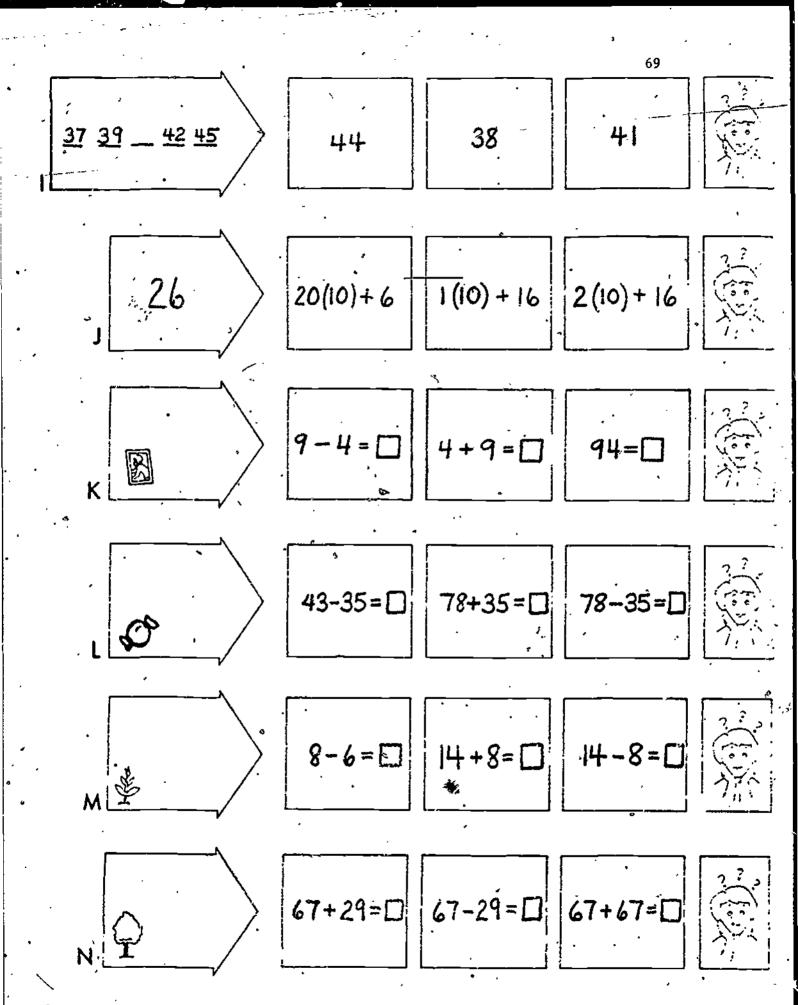
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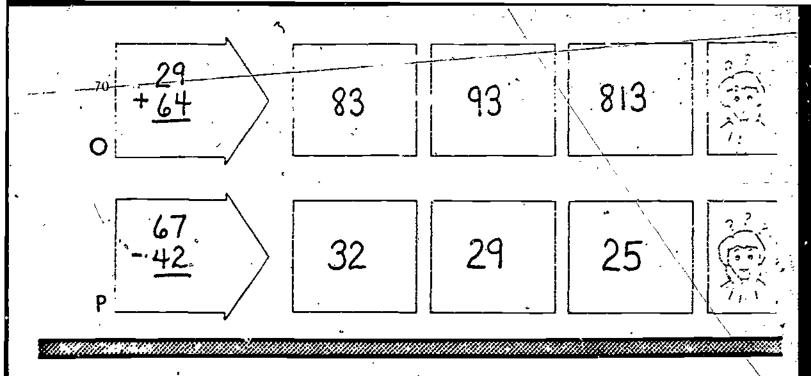


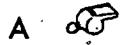


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ERIC TENTION TO BE END.

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A. 43 + 25	G. + 6	M. 167 + 426	S. 479 + 479
B. 14	H. 29 + 8	N. 727 + 213	T. 338 + <u>595</u>
C. 52 + <u>45</u>	I. + <u>85</u>	0. 409 + <u>383</u>	v. 864 4 658
D. 614 + 384	J. 38 + <u>45</u>	P. 155 + 792	V. 59. 49 + <u>37</u>
E. 132 + <u>551</u>	K. 29 + <u>32</u>	Q. 671 + 176	W, 21 33 + 59
F. 503 + 293	L. 숙양 + <u>72</u>	R. 334 + <u>484</u>	. ×. 86 27 + 98
ERIC Analysis translated by state		90	

Subtract

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E. 293 - 140		•	- 42

E M G D, <u>d.</u>, k b e , f ,g n

ERIC'

Directions for Administering Achievement Monitoring Test V

Coordinated Study #1 & #2

General Directions

Reading the Test. The first part of this test is in multiple choice format and is read aloud to the children. Read the questions exactly as they are printed in the directions; do not paraphrase. Each question is read twice—or the key phrases are repeated after the original question is read. Read the questions at a conversational pace. The second part of the test involves verbal problems for which the child must write, but not solve, a number sentence. Again, you will read the number story twice. The third part of the test is timed and assesses the child's speed and accuracy using the addition and subtraction algorithms. The fourth segment, the basic facts speed test, is administered via tape.

Since many children will not know how to do the majority of the test, especially at the beginning of the year, they will no doubt want to ask questions or want you to repeat items yet again. Please do not allow this—instead, ask them to answer "as best they can" or to mark the "puzzled face" to show they have "not learned this yet." Note also that reading the answers to the children is not permitted.

Since this is a group-administered test, verbal exchanges with individual children can be distracting and interfering—try to establish a policy of not talking and not allowing the children to talk in between questions.

Should the above directions seem unnecessarily stringent, please realize that we are attempting to measure change over time and that we have very few questions on which to base this measurement. The children will take the other forms of this same test at 6/week intervals and then they will repeat the three forms; hopefully each time they will be able to answer the questions more successfully.

Make sure the children mark only one box and that they mark at least one box. Encourage them to use the "puzzled face" by reminding them that this response means "I haven't learned this (how to do this) yet."

Pacing the Test. Try to keep the test moving. Expecially for the number story and algorithm problems it may take a "long" time for the children to figure out an answer. As a rule of thumb, allow the group to work on each question until only one or two children are still working. At that point, if necessary, suggest that anyone still working mark the "puzzled face" box. Then just go on to the next question without waiting longer. The second part of the test, sentence writing, may go slowly. Remind the children

not to solve the problem. The third part of the test is timed and must be administered accordingly.

The last section, the taped basic facts, is a speed test. Once the tape is started, it will not be stopped.

Estimated Administration Times

Part 1 10 min. Part 2 5 min. Part 3 15 min.

Part 4 5 min.

Preparations for Testing

The children will need two pencils with erasers. They will not need scratch paper for this test, since they will write in the "arrow" space. The children's names have been written on the tests in advance; distribute the tests, making sure each child has his/her own test.

Specific Directions

SAY: Today we are going to do some work with numbers in this booklet. You learned how to do some parts of the work last year in first grade. You will learn how to do more of the work this year in second grade. We don't expect you to know how to do all of the work today. We will come back again and again while you are in second grade . . . each time you will have learned how to do more of the work.

Find your name on the line. Look at the big box with an X in ityou will answer the questions today by making a big X like this one.

XAMPLE A Now find row A. I am going to ask you a question. You will answer by making a big X in one of the boxes. If you haven't learned about the answer yet, make an X in the last box, the one with the puzzled face. [Pause.]

Which box has a triangle in it? Make an X on the box with a triangle in it. [Pause] If you haven't learned this yet, make an X on the box with the puzzled face. [Check to see that the children mark only one box in the row.]

EXAMPLE B Find Row B. Look at the numbers in the arrow. What number comes next?

Make an X on the number that comes next.

Now turn to the next page and fold your booklet.

[Note: Starting with row C, do not assist the children with the test, except to make sure they are marking only one box ... and at least one box.]

Row C. Look at the sticks in the arrow. Make an X on the box that tells how many sticks there are ... the box that tells how many sticks there are. [Pause.] Remember, if you haven't learned about this yet, mark the puzzled face.

- D Row D. Make an X on the box that has 24 cubes in it ... 24 cubes in it
- E Row.E. I amigoing to read a number story of out toy airplanes. I will read the story twice. Listen both times before you mark a box. David has 9 toy airplanes. His sister Nancy has 13 toy airplanes. How many more toy airplanes does Nancy have than David? [Repeat. Allow time for the children to figure out their answers to rows E-H.]
 - Row F. This number story is about bottle caps. For this story you may write on the paper if you want to. Tom has 24 old bottle caps. He also has 57 new bottle caps. How many bottle caps does Tom have altogether? [Repeat. If necessary, remind the children to "make an X" on their answer. Also, use the "puzzled face" reminder as necessary.]
 - Row G. This number story is about shells. 17 shells are in a box. Some shells are little. 8 are big. How many little shells are in the box? [Repeat./]
- Row H. This number story is about soccer. For this story you may write on the paper if you want to. There were some soccer players on the field.

 23 more players came. Now there are 35 players on the field. How many players were on the field at first? [Repeat. Use "puzzled face" and make an X" reminders as necessary.]

Turn to the next page.

- Row I. Which box shows the numbers in order from smallest to largest :.
- J Row J. Look at the little squares in the arrow. Make an X on the box that tells how many squares there are...how many squares there are.
- K Row K. Look at the number sentences. One of the number sentences tells how to find the answer for this story about hats. After I read the story, make an X on the number sentence that tells how to find the answer. Karla had 15 hats. She gave 9 has to Steve. How many hats did Karla have left? [Rapeat.]

- Row L. This number story is about stickers. Make an X on the number sentence that tells how to find the answer. Sarah has 28 stickers. Her brother Ricky has 34 stickers. How many more stickers does Ricky have than Sarah? [Repeat.]
- M Row M. This number story is about things to drink. There are 11 glasses on the table. 5 have orange juice in them. The rest have milk in them. How many glasses have milk in them? [Repeat.]
- N Row N. This number story is about children swimming. There were 46 children swimming in the pool. 27 more children jumped into the pool. How many children were in the pool then? [Repeat.]

Turn to the next page.

4

- O Row O. Look at the problem in the arrow. What number is the a.swer ... what number is the answer? [Mention "write on paper" reminder]
- P Row P. Look at the problem in the arrow. What number is the answer ... what number is the answer?

Now we will do some different work. I will read a number story to you. Then I want you to write a number sentence for the story. You don't need to solve the sentence. Just write the sentence the best you can without solving it. Write it on the line.

- STORY A Judy has 4 chocolate cupcakes. She also has 7 white cupcakes. How many cupcakes does Judy have altogether? [Repeat.]
- STORY B Steve had 65 pennies. He gave 36 of them to Laura. How many pennies did Steve have left? [Repeat.]
- STORY 6 There are 86 marbles in a jar. 54 are big and the rest are little. How many little marbles are in the jar? [Repect]
- STORY D Adam has 7 puzzles. How many more puzzles does he have to put with them so he has 12 puzzles altogether? [Repeat.]

[Give the children a short stand up-stretch-touch toes--and so on--"break" here.]
Turn to the next page, the one that says "ADD" at the top.

Be sure you have the page that says "ADD" on it. All the problems on this page are addition problems. Each problem has a letter by it ... A. B, C, D... all the way to V, W and X. When I say "GO", start with problem A, then do B, then C. and so on until I say "STOP!" If you can't do a problem. So on to the next one. Do as many problems as you can before I say "STOP!" Ready? GO! (Allow 6 minutes) STOP! You worked very hard on these problems. You will be learning how to do them faster. (Reassure the children as you see fit.) Now turn to the page that says "SUBTRACT."

Be sure you have the page that says "SUBTRACT." All the problems on this page are subtraction. When I say "GO." start with problem A. then do B, then C... do as many as you can before I say "STOP!" Ready? GO! (Allow 6 minutes.) I could tell you tried your best on these problems. You will be learning how to do them faster.



Now turn to the last page.

The work on this page is different. I want to see how quickly you can think of the answers for addition and subtraction problems.

I am going to play a tape—the voice on the tape will say problems, like this: [Play the four sample problems 2+8, 5+6, 7+4, 8+3.] The problems will go very quickly, even faster than when you were in first grade. Today you probably will not know very many answers, but when I come back and we do these problems again, you will know more. Don't feel bad if you don't know the answers today.

We will start with the row of boxes at the top of the page—the ones with capital letters A, B, C The voice on the tape will tell you where to write your answers. Do your best to keep up with the voice. Get your pencil ready. [Start tape.]

Script on Tape: Look at the row of boxes at the top of the page. Find box

A. I am going to say problems like 5 + 4. The answer for 5 + 4 is 9.

So there is a 9 in box A. Find Box B. What is 7 + 1? 7 + 1 is 8. You write an 8 in box B.

[10 second pause; make sure the children are working on the top row.]

Now I am going to say problems for all the rest of the boxes in the top

row. I will not stop, so write your answers quickly. If you can't think of

an answer, just leave the box empty. Ready?

Form V	Box C	3 + 1
	Box D	2 + 5
	Box E	1 + 6
	Box F	7 + 2
	Box G	2 + 6
	Box H	3 + 5
	Box I	4 + 8
	Box J	3 + 7
	Box K	5 + ÿ
	Box L	6 + 8
	Box M	8 + 7
	Box N	4 + 9



b

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79

Stop working. You may rest for a moment...then we will work on the bottom row.

[10 second pause]

Ready to listen again? Look at the bottom row of boxes. Find Box A. This time I am going to say problems like 9-6. The answer for 9-6 is 3. So there is a 3 in box A. Find box B. What is 4-2? 4-2 is 2. You write a 2 in box B.

[10 second pause--make sure the children are in the bottom row.]

Now I am going to say problems for the rest of the boxes. I will not stop, so write your answers quickly. If you can't think of an answer, leave the box empty. Ready?

Form V

Box C 7 - 1

Box D 8 - 4

Box E 9 - 5

Box F 7 - 4

Box G 8 - 6

Box H 4 - 3

Box I 11 - 2

Box J 13 - 8

Box K 12 - 7

Box L 15 - 9

Box M 10 - 2

Box N 16 - 7

Stop working. Put your pencil down.

[Stop the tape.]

That is all the work we will do today. Remember, we will come again and you will do work like this again. Each time I come, you will be able to do more of the work.

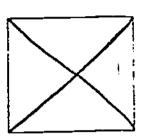
[Collect the booklets,]

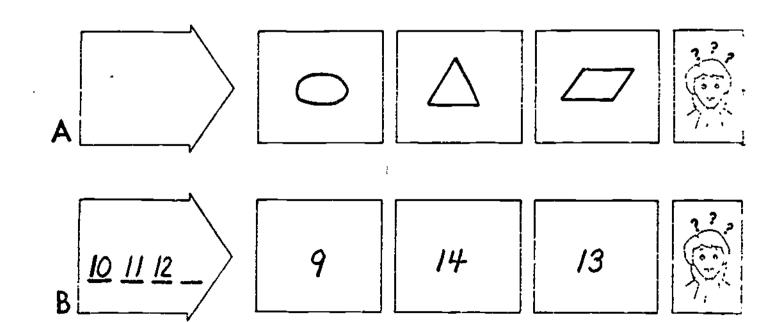


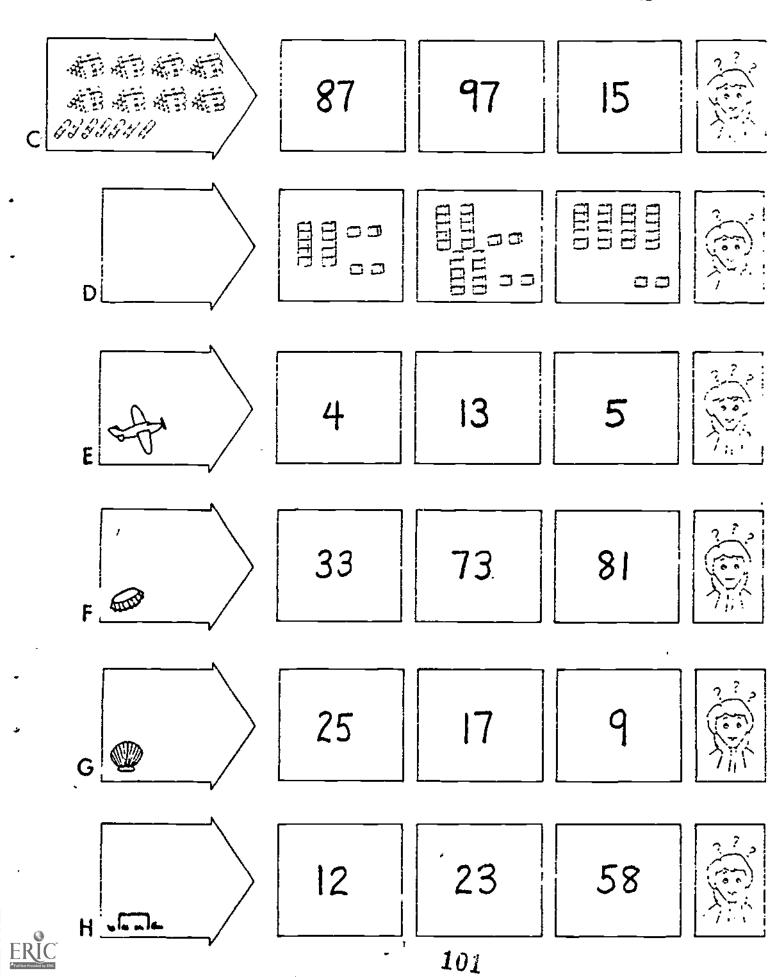
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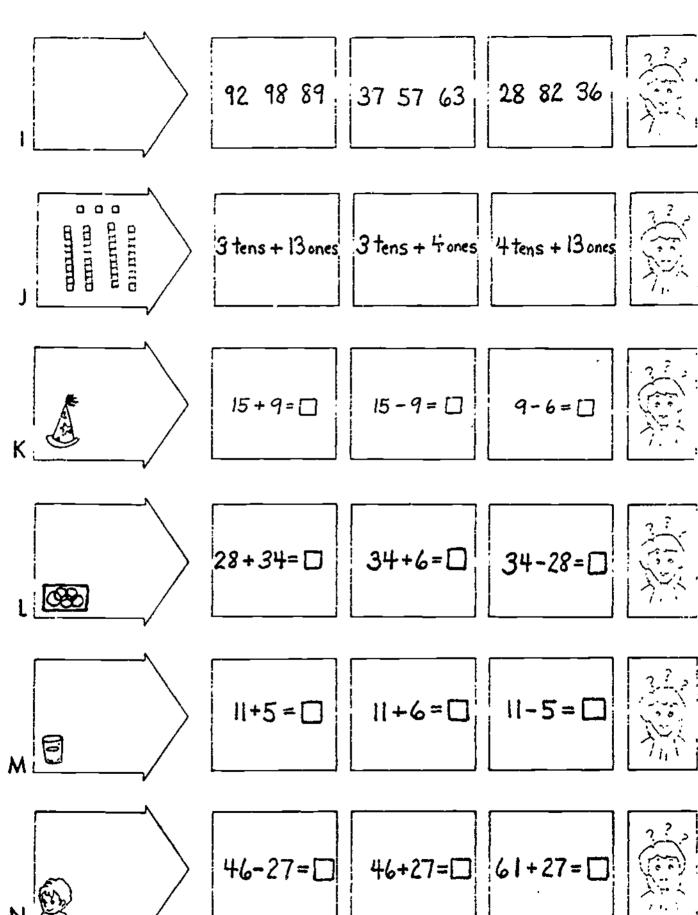
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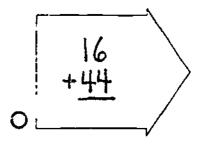


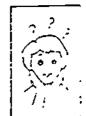












-<u>59</u>





В







53 + <u>34</u>

30 + <u>21</u>

+ <u>62</u>

D. 503 + 293

E. 265 + 314

F. 332 + 246

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A.

8.

C.

84

G.

H.

I.

J.

K.

+ <u>56</u>

+ 8

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29 + <u>64</u>

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+ <u>653</u>

115 + <u>875</u>

174 + <u>642</u>

583 + <u>241</u>

186 +570

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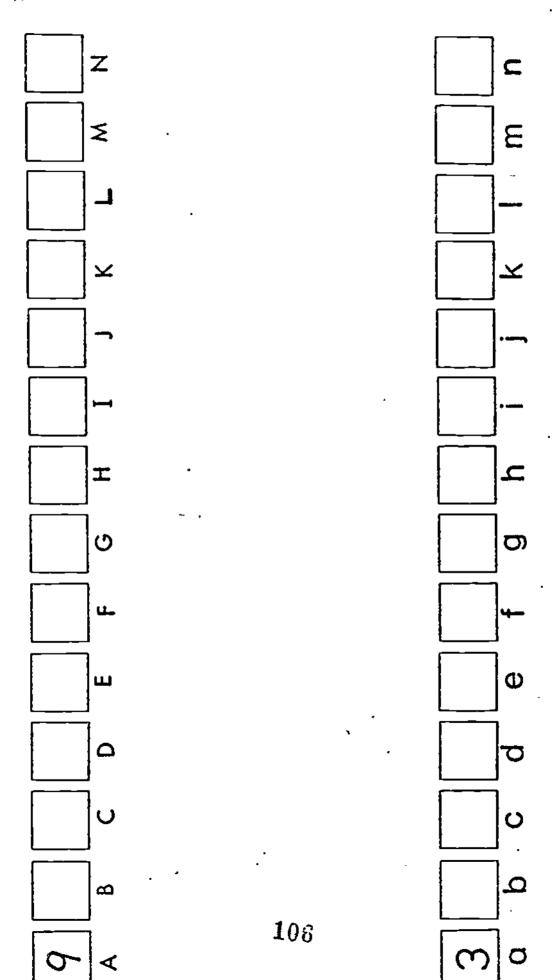
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ERIC Full Text Provided by ERIC



Directions for Administering Achievement Monitoring Test ${\tt W}$

Coordinated Study #1 & #2

General Directions

Reading the Test. The first part of this test is in multiple choice format and is read aloud to the children. Read the questions exactly as they are printed in the directions; do not paraphrase. Each question is read twice—or the key phrases are repeated after the original question is read. Read the questions at a conversational pace. The second part of the test involves verbal problems for which the child must write, but not solve, a number sentence. Again, you will read the number story twice. The third part of the test is timed and assesses the child's speed and accuracy using the addition and subtraction algorithms. The fourth segment, the basic facts speed test, is administered via tape.

Since many children will not know how to do the majority of the test, especially at the beginning of the year, they will no doubt want to ask questions or want you to repeat items yet again. Please do not allow this--instead, ask them to answer "as best they can" or to mark the "puzzled face" to show they have "not learned this yet." Note also that reading the answers to the children is not permitted.

Since this is a group-administered test, verbal exchanges with individual children can be distracting and interfering-try to establish a policy of not talking and not allowing the children to talk in between questions.

Should the above directions seem unnecessarily stringent, please realize that we are attempting to measure change over time and that we have very few questions on which to base this measurement. The children will take the other forms of this same test at 6 week intervals and then they will repeat the three forms; hopefully each time they will be able to answer the questions more successfully.

Make sure the children mark only one box and that they mark at least one box. Encourage them to use the "puzzled face" by reminding them that this response means "I haven't learned this (how to do this) yet."

Pacing the Test. Try to keep the test moving. Expecially for the number story and algorithm problems it may take a "long" time for the children to figure out an answer. As a rule of thumb, allow the group to work on each question until only one or two children are still working. At that point, if necessary, suggest that anyone still working mark the "puzzled face" box. Then just go on to the next question without waiting longer. The second part of the test, sentence writing, may go slowly. Remind the children



not to solve the problem. The third part of the test is timed and must be administered accordingly.

The last section, the taped basic facts, is a speed test. Once the tape is started, it will not be stopped.

Estimated Administration Times

Part 1 10 min.

Part 2 5 min.

Part 3 15 min.

Part 4 5 min.

Preparations for Testing

The children will need two pencils with erasers. They will not need scratch paper for this test, since they will write in the "arrow" space. The children's names have been written on the tests in advance; distribute the tests, making sure each child has his/her own test.

Specific Directions

SAY: Today we are going to do some work with numbers in this booklet. You learned how to do some parts of the work last year in first grade. You will learn how to do more of the work this year in second grade. We don't expect you to know how to do all of the work today. We will come back again and again while you are in second grade . . . each time you will have learned how to do more of the work.

Find your name on the line. Look at the big box with an X in ityou will answer the questions today by making a big X like this one.

EXAMPLE A Now find row A. I am going to ask you a question. You will answer by making a big X in one of the boxes. If you haven't learned about the answer yet, make an X in the last box, the one with the puzzled face. [Pause.]

Look at the boxes with the black and white dots in them. Which box has the most black dots? Make an X on the box with the most black dots. [Pause] If you haven't learned this yet, make an X on the box with the puzzled face. [Check to see that the children mark only one box in the row.]

EXAMPLE B Find Row B. Look at the numbers in the arrow. Which box has the numbers in order from largest to smallest? Make an X on the box with the numbers in order from largest to smallest,

Now turn to the next page and fold your booklet.

[Note: Starting with row C, do not assist the children with the test except to make sure they are marking only the box and at least one box.]



- Row C. Make an X on the box that has a seventy-four in it ... make an X on the box that has a seventy-four in it. [Pause.] If you haven't learned about this yet, mark the puzzled face.
- D Row D. Look at the number in the arrow. Make an X on the box that has that many stars in it ... make an X on the box that has that many stars in it.
- E Row E. I am going to read a number story about fish. I will read the story twice. Listen both times before you mark a box. Judy has 6 little fish. She also has 9 big fish. How many fish does Judy have altogether? [Repeat. Allow time for the children to figure out their answers to rows E-H.]
- For this number story is about comics. For this story, you may write on the paper if you want to. Paul had 43 comics. He gave 28 comics to Carol. How many comics did Paul have left? [Repeat and give "puzzled face" reminder if necessary to move the test along. You also might need to remind children to "make an X" on their answer.]
- Row G. This number story is about tickets. First Julie bought 7 tickets to ride on the roller coaster. Then she bought 4 more tickets to ride on the ferris wheel. How many tickets did Julie buy? [Repeat.]
- Row H. This story is about a dog's leash. For this story you may write on the paper if you want to. The dog's leash is 75 links long. A part of the leash 47 links long is around a tree. The rest of the leash is not. How long is the part that is not around a tree? [Repeat. Remind about "puzzled face" and "make an X on answer" as necessary.]

 Turn to the next page.
- Row I. Look at the three purses. Which purse has the <u>least</u> amount of money in it ... the <u>least</u> amount of money?
- J Row J. Look at the numbers in the arrow. Make an X on the box that means the <u>same</u> as the numbers in the arrow...that means the same as the numbers in the arrow.
- K Row K. Look at the number sentences. One of the number sentences tells how to find the answer for this story about keys. After I read the story, make an X on the number sentence that tells how to find the answer. Sally has 8 keys. Her brother Mike has 14 keys. How many more keys does Mike have than Sally? [Repeat.]
- L Row L. This number story is about beads. After I read the story, make an X on the number sentence that tells how to find the answer. Jack has 16 red beads. He also has 56 green beads. How many beads does Jack have altogether? [Repeat,]
- M Row M. This number story is about links. Mark the number sentence that tells how to find the answer. Patty made a chain of links. She used 3 links first. Then she used 8 more links. How many links long is her chain? [Repeat.]
- N Row N. This number story is about marbles. On Tuesday Melinda won 31 marbles. On Wednesday she won some more marbles. She won 64 marbles altogether. How many marbles of the she win on Wednesday? [Repeat.]



- 90 Turn to the next page.
- Row 0. Look at the problem in the arrow. What number is the answer ... what number is the answer? [Mention "write on paper" reminder]

W

P Row P. Look at the problem in the arrow. What number is the answer ... what number is the answer?

Now we will do some different work. I will read a number story to you. Then I want you to write a number sentence for the story. You don't need to solve the sentence. Just write the sentence the best you can without solving it. Write it on the line.

STORY A Jenny had 13 balloons. She gave 9 balloons to Ben. How many balloons did Jenny have left? [Repeat.]

STORY B Mark has 16 crayons. His sister Pam has 58 crayons. How many more crayons does Pam have than Mark? [Repeat]

STORY C Jean had 26 bottle caps. Her mother gave her 37 more bottle caps. How many bottle caps did Jean have altogether? [Repeat.]

STORY D There are 11 trucks in the sandbox. 8 are big and the rest are little. How many little trucks are in the sandbox? [Repeat.]

[Give the children a short stand up-stretch-touch toes--and so on--"break here.]
Turn to the next page, the one that says "ADD" at the top.

Be sure you have the page that says "ADD" on it. All the problems on this page are addition problems. Each problem has a letter by it ... A, B, C, D... all the way to V. W and X. When I say "GO", start with problem A, then do B. then C, and so on until I say "STOP!" If you can't do a problem, go on to the next one. Do as many problems as you can before I say "STOP!" Ready? GO! (Allow 6 minutes) STOP! You worked very hard on these problems. You will be learning how to do them faster. (Reassure the children as you see fit.) Now turn to the page that says "SUBTRACT."

Be sure you have the page that says "SUBTRACT." All the problems on this page are subtraction. When I say "GO," start with problem A, then do B, then C... do as many as you can before I say "STOP!" Ready? GO! (Allow 6 minutes.) I could tell you tried your best on these problems. You will be learning how to do them faster.

Now turn to the last page.



W

The work on this page is different. I want to see how quickly you can think of the answers for addition and subtraction problems.

I am going to play a tape-the voice on the tape will say problems, like this: [Play the jour cample problems 2+8, 5+6, 7+4, 8+3.] The problems will go very quickly, even faster than when you were in first grade. Today you probably will not know very many answers, but when I come back and we do these problems again, you will know more. Don't feel bad if you don't know the answers today.

We will start with the row of boxes at the top of the page—the ones with capital letters A, B, C The voice on the tape will tell you where to write your answers. Do your best to keep up with the voice. Get your pencil ready. [Start tape.]

Script on Tape: Look at the row of boxes at the top of the page. Find box A. I am going to say problems like 5 + 4. The answer for 5 + 4 is 9. So there is a 9 in box A. Find Box B. What is 7 + 1? 7 + 1 is 8. You write an 8 in box B.

[10 second pausa: make sure the children are working on the top row.]

Now I am going to say problems for all the rest of the boxes in the top

row. I will not stop, so write answers quickly. If you can't think of
an answer, just leave the box empty. Ready?

Form W Box C 2	+ 4
----------------	-----

Box F
$$2 + 3$$

Box
$$G$$
 5 + 0

Box M
$$9+7$$



W

6

92
Stop working. You may rest for a moment...then we will work on the bottom row.
[10 second pause]

Ready to listen again? Look at the bottom row of boxes. Find Box A. This time I am going to say problems like 9-6. The answer for 9-6 is 3. So there is a 3 in box A. Find box B. What is 4-2? 4-2 is 2. You write a 2 in box B.

[10 second pause--make sure the children are in the bottom row.]

Now I am going to say problems for the rest of the boxes. I will not stop, so write your answers quickly. If you can't think of an answer, leave the box empty. Ready?

Form W

Box C 3 - 2

Box D 6 - 4

Box E 9 - 1

Box F 7 - 3

Box G 6 - 1

Box H 7 - 5

Box I 10 - 4

Box J 13 - 9

Box K 14 - 8

Box L 11 - 7

Box M 12 - 4

Box N 17 - 9

Stop working. Put your pencil down.

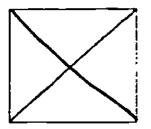
[Stop the tage.]

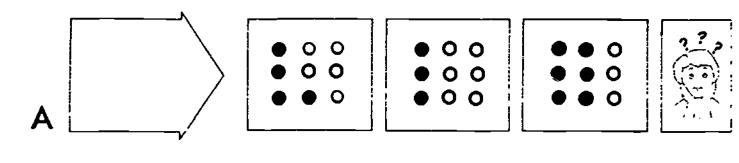
That is all the work we will do today. Remember, we will come again and you will do work like this again. Each time I come, you will be able to do more of the work.

[Collect the booklets.]

ID_______

Name_____





B 7

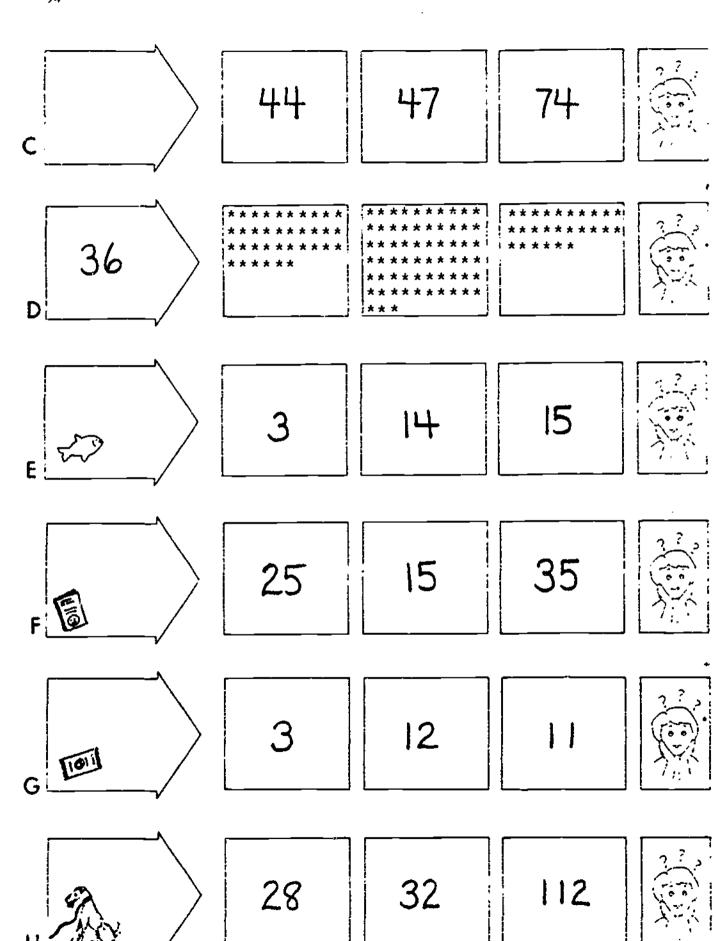
9,3,7

9,7,3

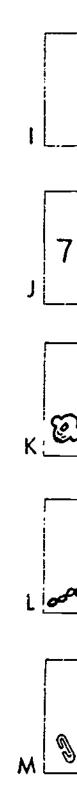
3,9,7

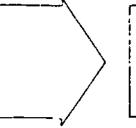






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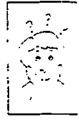












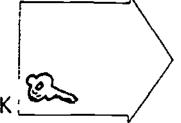
7(10)+18

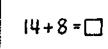
78

718

88



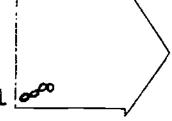




14-8=[

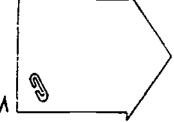
14+6=





56-16=0 16+56=0

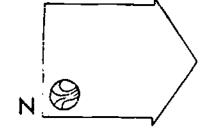




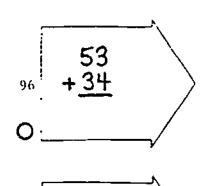
8-3=

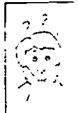
3+8= 🗆

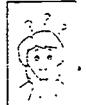












В





Add

M.

T. 188 + 295

996

69

S.

347 + <u>589</u>

+ <u>48</u>

25 + <u>22</u>

362 + <u>205</u>

E. 417 + 212

4 <u>215</u>

F.

ERIC

+ <u>27</u>

A.

β.

C.

H.

I,

J.

K.

G.

+ 84

+ _7

+ <u>59</u>

19 + <u>44</u>

56 + <u>34</u>

59 + <u>65</u>

0.

N.

Ρ.

Q.

R.

+ 839

559 + <u>236</u>

328 + 349

+ <u>272</u>

594 + <u>383</u>

+ 436

117

Ų.

W.

X.

+ 317 34 + 57

> 86 54 46

Subtract G. M.

90 94

S. 453 - <u>215</u> 428 - 289

- 63 - 60

N.

0.

Т.

661 462

- <u>64</u> H. I. - <u>21</u>

994 <u>336</u> –

950 - <u>219</u>

U. 685 - 596

D. - 634 - 523

A.

B.

C.

- 15

J.

P. 746 - <u>584</u>

V. 620 - 545

E. 582 232 F. 998

676

ERIC

K.

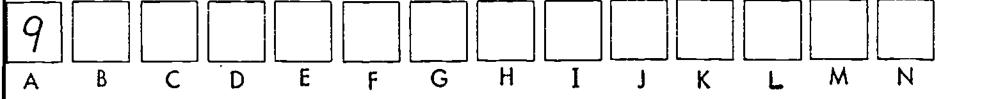
77 - <u>29</u> - <u>63</u>

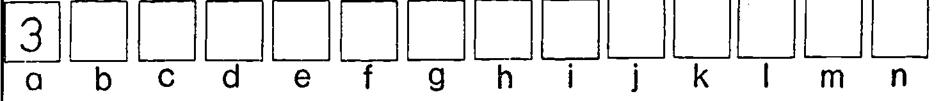
Q. R.

113

914 - <u>540</u> - 393

W. - 701 - 599 X. <u>400</u> - <u>276</u>





Appendix B

ITEM STATISTICS FOR FORMS U. V, \mathbf{w} FOR THE TOTAL POPULATION

SUHMARY ITEM STATISTICS

PAGE 16

TEST NO 1 ACH	· IEVEMEN	T MONITO	WING 9U					SUBTES	ST 1	06JE C 1	IVES TEST	
ITEM NUMPER 1					COEFFI	CIENTS	OF CORRE	LATION		м	ANS	ITEM DESCRIPTIONS
OPTION	нT	N	۶		PB-ST	P8-TT	8-57	B-TT		\$1	17	
1	0	1	3.2		.00	04	.00	10		11.00	63.00	
c s	1	27	87.1	C	.57	.38	.88	,58	C	11.41	66.96	Numerousness
3	0	0	. 0		.00	.00	.00	.00		.00	.00	Writes 0-99
4	0	3	9 • T		65	40	-1.12	70		7.33	52.00	
TATAL		31										
ITEM NUMBER >					COEFFI	CIENTS	OF CORRE	LATION		ма	ANS	
021:0N	WT	N	P		P8-ST	P8-TT	8-51	8-11		ST	TT	
1	0	0	.0		.00	.00	.00	.00		.00	• 0 0	
\$	Q	0	.0		.00	.00	.00	.00		.00	.00	Numerousness
СЗ	1	28	90.3	C	• 59	.45	.96	.74	C	1,1.36	6T.00	Represents J-99
4	0	3	9.7		59	45	-1.05	78		7.67	50.33	
TOTAL		31									•	
ITEM NUMBER 3					COEFFI	CIENTS	OF CORRE	LATION		МЕ	ANS	
0PT:0N	WT	N	P		P8⇔ST	P8-TT	8-51	8-11		ST	ŤΤ	
1	0	3	9.7		24	.01	41	.01		9.67	65.67	
8	0	0	. 0		.00	.00	.00	.00		• Ÿ0	.00	Problem Solving (A)
C 3	1	27	87.1	C	.26	.08	.40	.12	C	11.19	65.70	Subt-simple separating 11-15
4	0	1	3.2		10	16	-,2 4	39		10.00	56.00	
ATOT .		31										
IYEN NUMBER 4					COEFFI	CIENTS	OF CORRE	LATION		MÉ	ANS	
OPTION	WT	N	₽		P8-ST	P8-TT	8-57	8-11		ST	TŢ	
C 1	1	10	58 . 1	С	.60	•34	.16	• 43	C	11.94	68.50	
5	Õ	ž	6.5	-	14	09	28	18		10.00	61.50	Problem Solving (A)
3	Ö	7	55.6		54	19	75	4.26		9.14	61.57	Subt-comparison 0-99
4	Ō	4	12.9		10	19	w.17	·· 30		10.50	60.00	·
TOTAL		31				-						

OPT 101	; WT	N	þ	PB-ST	P8+TT	8-51	BeTT		51	77		
1		4	12.9	16	20	-,28	+.35		10.25	59.15		
	9	0	•0	.00	.00	.00	.00		.00	•00	Problem Solving (B)	
C		25 2	80.6 C	.53	.42	, TS	•60 -•B0	C	11.48 6.50	67.64 48.50	Subt-join-addend 11-15	
AYOT		31	0.5	64	w.41	-1.25	00		0.50	78.50		
ITEM NUMBER 14	داه			c0EFF:	CIENTS	OF CORRE	LATION		MF	ANS		104
OPTIO		N	P	P8-\$T		B⇒ST	B=TT		\$T	ŤΤ		
								_				
C		39	93.5 C	, 36	.26	,63	.46	C	11.17	66.14	-	
	0	0	.0	.00	.00	.00	.00		.00	.00	Problem Solving (B)	
	• 0	1	3.2 3.2	*.39 *.10	-, 12 -, 24	+.9T +.24	30 59		7.00 10.00	56.00 51.00	Add-simple joining 0-99	
ATOT		3)	316	**10	*,64	W1E-7	4137		10.00	41.00		
	-											
							•				-	
LERTAP 2,0				SUMM	RY ITEM	STATIST	105				PAGE 1T	
TEST NO 1 AC	HIEVEMEN	T MONITOR	ING 9U				SUBTES	T 1	OBJEC*	'VES TEST		
ITEM NUMBER 🤌	×1			COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		
0PT10A	HT.	N	P	PB-ST	P8=TT	B#ST	6-77		\$T	TT		
1	٥	٥	.0	.00	- 00	.00	.00		.00	.00		

COLITICIENTS OF CONNELATION

MEANS

	0PT10N	WT	N	P	PB-ST	P6-TT	8.57	8-77		ST	TT		
	1	0	0	.0	.00	.00	.00	.00		.00	•00		
	5	¢	1	3.2	.00	21	.00	51		11.00	53.00	Order, Place Value	
	C 3	1	30	96.6		.21	.00	.40	C	11.00	65.80	Ordering 0-99	
	4	0	0	.0	.00	.00	.00	.00		.00	.00	•	
	TOTAL	•	31		•	• • •	•••			• • • • • • • • • • • • • • • • • • • •			
ITEM #	8 نو NUMBER				COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		125
	OPTION	WT	N	P	P&+ST	P8-TT	B=ST	8-11		ST	ŤŤ		1.40
124	1	0	19	61.3	. OT	01	.09	w.02		11.11	65,26		
エルマ	C 2	1	5	16.1		.16	. 43	.24	C	12.20	69.40	Order, Place Value	
(3)	3	0	1	3.2	39	w.12	-,9 T	*.30		T.00	58.00	Place Value 0-99	
EDIC.	4	0	6	19.4	16	08	-, 25	*.11		10.33	63.6T		
ERIC	TOTAL		31		- *		•-	, , , -					
Full Text Provided by ERIC			,									•	

	NALVEN	-				Craff.	CIENTS	OF CORRE	LATION		ME	ENA	
	OPT:ON	WT	- N	P		P6-ST	P8-T7	B#\$T	8-11		ST	• TT	•
12.	1 C 2 3 4 TOTAL	0 1 0 0	30 0 1 31	96,8 96,8 96,8	c	.00 .59 .00	.00 .39 .00 39	.00 1.15 .00 -1.45	.00 .76 .00	С	.00 11,20 .00 5,00	.00 66.17 .00 42.00	Sentence Writing (A) Add-part part whole 11-15
ITEM	NUMBER XI	ı				COEFFI	CIENTS	OF CORRE	LATION		ME	ans	
	OPTION	WT	N	P		P8-ST	P8+TT	8-57	B-TT		ST	71	
	1 C 3 4 TOTAL	0 0 1 0	0 1 30 0 31	3,2 96.8	С	•00 •00 •00	.00 .26 .00	.00 .00 .00	.00 .64 -*-51	С	.00 11.00 11.00	.00 B1.00 64.87	Sentence Writing (A) Subt-simple separating 0-99

PAGE 18 LEHTAP 2.0 SUMMARY ITEM STATISTICS OBJECTIVES TEST TEST NO 1 ACHIEVEMENT MONITORING 9U SUBTEST 1 9-11 MEANS ITEM NUMBER COEFFICIENTS OF CORRELATION OPTION WT PB-ST B-TT TT P8-TT ST N 5 6.5 .14 .28 .59 12.00 78.00 1 .31 Sentence Writing (B) -, 45 -.25 10.44 63.56 2 18 58.1 **-.35** -.20 Subt-join-addend 11-15 32.3 C . 68 12.40 68.50 C 3 10 .52 .20 .26 -1.45 3.2 ..59 -.39 -.96 5.00 1 42.00 TOTAL 31 105 ITEM NUMBER 1412 COEFFICIENTS OF CORRELATION MEANS TT **OPTION** H7 N P PB-ST PB-TT 8.ST BeTT ST 5 16.1 ..29 -.13 10.20 63.20 -.19 w.09 Sentence Writing (B) .81 .41 C C 5 24 TT.4 C .58 .30 11.58 67.12 Subt-part part whole-addend .00 .00 .00 .00 3 0 0 .0 .00 .00 0-99 w+71 -1,3B 0 5 6.5 -.37 -.73 6.00 50.00 31 TOTAL

TEST NO 1 ACHIEVENENT MONITORING 90

SUBTEST 1 OBJECTIVES TEST

ITEM NUMBER 13				COEFFI	CIENTS O	F CORREL	AT ION		ME	ANS	
OPTION	WT	N	P	PB-ST	PB=TT	8 - \$T	B-TT		\$T	TT	
1 C 2 3 4 TOTAL	0 1 0 0	4 2T 0 0 31	12.9 87.1 .0	31 0 .31 .00	16 .16 .00	50 .48 .00	26 •25 •00 •00	С	9.50 11.22 .00	60.75 66.07 .00	Algorithms Addition Algorithm
1TEM NUMBER 14				COEFF	LCIENTS (OF CORRE	LATION		ME	ANS	
OPTION	WT	N	P	PB=ST	PB-TT	8-57	B-TT		ST	ΤŤ	
1 2 C 3 4 Total	0 0 1 0	0 0 31 0 31	.0 .0 100.0	.00 .00 .00	.00 .00 .00	.00 .00 .00	.00 .00 .00	С	00 .00 11.00 .00	.00 .00 65.39 .00	Algorithms Subtraction Algorithm

LEATAP 2.0

SUMMARY ITEM STATISTICS

TEST NO 1 ACH	12 VEHEN1	T MONITO	RINO 9U					SUBTE	s 18	SENTE	NCE WRITING	free response
ITEM NUMBER 3					COEFFI	CIENTS	OF CORRE	LATION		Ħ	EANS	ITEM DESCRIPTIONS
OPTION	WT	N	P		P8+ST	P8+TT	8-ST	8-11		\$T	TT	
•	ø	q	.0		.00	.00	.00	.00		.00	• 0 0	
C 1	1	18	68.1	C	.85	.34	1.07	.43	С	3.78	68.56	Sentence Writing
5	q	13	41.9		8 \$	-,34	-1.07	-, 43		2.00	61.00	Subt-comparison 11-15
TOTAL		31									•••	
ITEM NUMBER >					COEFFI	^IENT\$	OF CORRE	LATION		М	EANS	
OPTION:	WT	N	P		P8-\$T	P8-TT	B-ST	8-11		\$T	TT	
0	a	a	.0		• 0 0	.00	.00	• 0 0		.00	• 0 0	
c 1	1	30		С	.54	.16	1.04	.31	c	3,13	65.70	Sentence Writing
ž	a	1	3,2	-	54	-,16	-1.31	+,39	•	.00	56.00	Add-part part whole 0-99
TOTAL		31	-			-,		107		•••	-8100	. 1 1 (- //
ITEM NUMBER 3					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
OPTION	WT	N	P		P8=\$T	P8.TT	8 - \$T	8-11		ST	TT	
σ	٥	a	. 0		• 00	• a a	.00	.00		.00	.00	
Ci	1	16		C	.84	.36	1.06	45	С	3,87	69,19	Sentence Writing
2	a	15	48.4		84	+,36	-1.06	-,45	•	8.13	61,33	Subt-join-addend 0-99
TOTAL		31				•		•			-1103	
ITEM NUMBER 4					COEFF1	Clents	OF CORRE	LATION		ME	ANS	
OPTION	WT	N	ρ		P8-ST	P8-TT	8 ~ ST	8-11		ST	TT	
0	0	a	•0		•00	•00	.00	.00		. 00	• 0 0	
C 1	1	30		С	.54	.16	1.04	.31	C	3.13	65.70	Sentence Writing
ż	ā	ĭ	3.2	•	54	16	-1.31	÷.39	v	3.12	56.00	Add-simple joining 11-15
TOTAL	•	3 Ī				,		~137		• • • •	20.00	
_												

ERIC

LERTAP 2,0					SUMMA	RY ITEN	STATIST	ICS				PAGE	23
TEST NO 1 ACH	IEVENENT	HONITO	RINO 9U					SUBTES	T 3	ADDITI	ON FACTS		 _
ITEM NUMBER 1					COEFF	CLENTS	OF CORRE	LATION		MS	ANS	ITEM DESCRIPTIONS	108
OPT:ON	NT	N	۶			PBeTT	B=ST	B=TT		S T	TT		
٥	0	٥	•0		•00	.00	•00	• 00		.00	• 0 0		
C 1	1	31	100.0	C	•00	•00	•00	.00	Ç	10.48	65.39	1 + 5	
TOTAL 2	0	31	•0		•00	•00	•00	•00		•00	•00		
ITEM NUMBER 2					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	•	
OPT ION	WT	N	•		PB-ST	PB _# TT	8-51	8eTŢ		ST	TT		
0	0	0	• 0		•00	•00	•00	•00		.00	•00		
C i	ĭ	31	100.0	C	•00	.00	•00	.00	Ç	10.48		3 + 2	
5	Ŏ	0	.0	•	.00	•00	.00	•00		•00	.00		
TOTAL		31											
ITEH NUMBER 3					ÇQEFFI	CIENTS	OF CORRE	LATION		НЕ	ANS		
OPTION	WT	N	P		PB#ST	PB+TT	B⇔ST	Bett		\$T	TT		
0	0	0	.0		•00	•00	• 00	.00		•00	•00		
C 1	1	31	100.0	C	.00	•00	•00	.00	C	10.46	65.39	. 4 + 4	
Z TOTAL	0	31	•0		•00	•00	•00	•00		• 0 0	•00		
ITEM NUMBER 4					COEFF	CIENTS	OF CORRE	LATION		HE	ANS		
NOITAO	wT	N	P		PB⇔ST	PB ₊ TT	B-\$T	BeTT		ST	ΤT		
0	0	0	•0		•00	.00	• 00	• 00		.00	•00		
¢i	1	31	100.0	С	•00	•00	•00	.00	C	10.48	65.39	3 + 6	
ż	Ö	0	•0		.00	•00	.00	.00		• 0 0	•00		
TOTAL		31				•							
ITEM NUMBER &					COEFFI	CIENTS	OF CORRE	LATION		HE	ANS		
OPTION	NT	N	P		₽B+ST	PB+TT	, 8∙\$1	B+TT		\$7	TT		
0	0	0	.0		•00	.00	•00	•00		• 0 0	•00		. A.A.
(00)	1	30	96.8	¢	.50	•21	, 96	• 40	С	10.63	65.80	4 + 3	13.
132	0	1	3.2		50	2I	-1.55	51		6.00	53.00	-	Appendix of the control of the contr
TOTAL		31					_						
					•								

ERIC

LERTAP 2.0					SUMMA	RY ITEM	STATIST	1cs			
TEST NO 1 ACHI	EVEAENI	r MONITO	RING 9U					SUATES	т 3	400 I T I	ON FACTS
ITEM NUMBER 6					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS
097108	WT	N	P		P8-ST	P8-TT	B-ST	8-11		ST	TT
0	Đ	•	.0		•00	•00	.00	.00		.00	.00
C 7	1	31	100.0	С	.00	.00	.00	.00	С	10.4B	65.39
Ş	ō	Ö	. 0		.00	.00	.00	•00		•00	.00
TOTAL		31	-				• • • • • • • • • • • • • • • • • • • •				
ITEM NUMBER 7					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS
OPTION	WT	N	P		P8-ST	P8-TT	8-ST	8-11		ST	TT
0	0	6	19.4		→.5 9	+,24	₩,85	34		8,50	60.17
¢ i	1	24	71.4	C	.63	.28	.81	.38	C		6T.00
2	0	1	3.2		16	12	40	30		9.00	\$8.00
JATOT		31					•				
a Radmun mati					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS
HO1 T40	WT	N	٩		P8-ST	P8-TT	B⇔ST	8-11		ST	TT
э	٥	s	16.1		66	-,2T	-1.00	40		8.00	58.80
· Ci	1	50	64.5	C		.39		.50	C	11.35	68.55
2	0	6	19.4		w.24	23	. .35	33		9.6T	60.33
TOTAL		31									
ITEM NUMBER o					COEFFI	CIENTS	OF CORRE	LATION		HE	ANS
OPTION	wT	N	ρ		P8-ST	P8-TT	8-ST	8-11		ST	TT
0	0	5	6.5		w.48	-,24	₩,93	47		T.50	55.50
C 1	1	29	93.5	C	.48	. 24	.84	.42	C	10.69	66.07
ž	Ö	0	. 0		.00	.00	• 00	.00		• 0 0	• 00
		31			-						

..6T .T1 ..16

25.8

61.T C

COEFFICIENTS OF CORRELATION

.90 .92 .31 -.63 .82 C 109

PAGE 24

6 + 2

5 + 8

6 + 9

9 + 3

5 + 7

1

MEANS

8.62

11.29

TT

56.8T T0.10 50.00

OPTION

C 1

ITEM NUMBER 10

LERTAP 2.0				SUMMA	METE YE	STATISTI	C\$				PAGE	25
TEST NO 1 AC	HIEVEMENT	MONITORI	NG 9 U				SUBTES'		ADDITI	ON FACTS		110
ITEM NUMBER 11	l.			COEFFI	CIENTS C	F CORREL	ATION		ME	ANS		5
02110	y hT	N	P	PB-ST	PB+TT	8-51	8-77		\$T	TT		
C] Total	1 1	10 19 2 31	32.3 61.3 6.5	•.15 .80 •.16	**56 **61 **15	*.96 1.01 31	73 .78 30	c	8.T0 11.53 9.50	56.60 T0.68 59 ,00	8 + 9	
ITEH NUMBER 12	?			COEFFI	CIENTS (F CGAREL	AT ION		ME	ANS		
OPT10	w WT	N	P	P8-ST	P8-TT	8-51	B_TT		ST	TT		
C TOTAL	1 1	4 2T 0 31	12.9 87.1	95 C .3S .00	31 .31 .00	••.55 •54 •00	49 .47 .00	c	9.00 10.70 .00	56.75 66.67 .00	3 + 0	

13/

TEST NO	noa 1	EVERENT	MONITO	RING 9U					SUBTES	T 4	SUBTRA	CTION FACTS	
ITEM NUMBI	EA 1			*		COEFFI	CIENTS 0	F CORREL	LATION		ME	ANS	ITEM DESCRIPTIONS
	PTION	wT	N	p			P8_TT		B_TT		ST	TT	
		0	o	.0		• 60	.00	.00	.00		.00	.00	
	0		30	96.8	С	.10	.24	.16	, 4T	C	9.97	65.87	5 - 1
	Cl	1	1	3.5	·	10	- 24	23	- 59		9.00	51.00	
	TOTAL	٧	31	316					•				
	TOTAL		31										
ITEM NUMB	E8 2					COEFFI	CIENTS 0	F CORRE	LATION		ME	ANS	
	00;T90	ъT	N	P		P8-5T	P8-TT	B⇔\$T	9-TT		\$1	TT	
	v	٥	0	.0		.00	.00	.00	.00		.00	•00	
	C 1	ì	30	96.6	C	.30	. 21	. 56	.40	C		65.80	9 - 2
	2	ò	1	3.2	-	30	21	-, T3	5		7.00	\$3.00	
	TOTAL	•	31			·					•		
						COFFET	CIENTS C	F CORRE	LATION		ME	ANS	
ITEM NUMS	5H 3							_					
	OPTION	WT	N	P		PB-ST	PB-TT	6-ST	8		ST	11	
	0	0	٥	.0		.00	.00	.00	.00		.00	•00	
	Ci	ĭ	31	100.0	C	.00	.00	.00	.00	C	9.94	65.39	8 - 7
	ž	ò	Ō	.0		.00	.00	.00	.00		.00	.00	
	TOTAL	•	31										
ITEK NUMB	FR 4					COEFFI	CIENTS (F CORRE	LATION		МЕ	ANS	
•	OPTION	WT	N	P			P8-TT				ST	TT	
	UPTION								-,59		9.00	51.00	
	0	0	1	3.2	_	10	24	-,23	•		9.91	65.8T	5 - 3
	Cl	1	30	96.8	C	.10	. 24	.18	.00		•00	•00	
	5	0	0	• 0		.00	.00	• • •	• • • •		•••		
	TOTAL		31				•						
ITEM NUME	EA 5					COEFF	CIENTS	F CORRE	LATION		М	EANS	
	OPTION	нT	N	P		#8=ST	P8-T:	B=5T	B_TT		ST	TT	
	Ó	٥	٥	.0		.00	.00	.00	.00		.00	• 0 0	7 - 6
	C i	ĭ	3 [100.0	C	.00	.00	.00	.00	C	9.94	65.39	
	2	ō	ő	,0	-	.00	.00	.00	+00		•00	•00	
	TOTAL	•	31	,					4				

LERTAP 2.0					SUMMA	RY ITE	4 STA	T [S T]	cs				•	PAGE	58	
TEST NO 1 4CH	TEVENENT	MONITOR	RING 9U						SUBTES	T 4	SUBTRA	CTION FACTS				 -
ITEM NUMBER 6					COEFFI	CIENTS	OF C	ORREL	ATION		мЕ	ANS				112
OPTION	WT	N	P		P8 - \$T	P8-TT	8	- \$T	B=TT		ST	TT				
0	o	5	6.5		50	•,15	-	.98	30		6.50	59.00				
C 1	Ĭ	29	93.5	C	.50	.15		.88	.27	С	10.17	65.83	8 - 5			•
ž	ò	Ō	.0	•	.00	.00		.00	.00		.00	.00				
TOTAL	•	31	••		•••											
ITEM NUMBER 7					COEFFI	CIENTS	OF C	ORREL	ATION		ME	ANS				
• re- noncen					•••											
OPTION	WT	N	P		P8-5 T	P8-TT	₽-	- \$T	8-11		51	TT				
0	0	3	9.7		54	-,19		.92	33		T.00	59.00				
c i	1	26	63.9	C	.51	. 29		. 84	.43	С	10.38	66.77	14 ~ 7			
à	ò	_ 5	6.5		21	20		.41	40		6,50	5T.00				
TOTAL	-	31	-			- '										
ITEM NUMBER n					COEFFI	CIENTS	OF C	ORREI	LATION		HE	ANS				
OPTION	WT	N	P		P8-51	P8-TT	8	-\$ T	8-11		ST	TT				
		_									- 44	7 4 00				
0	0 😓	7	55.6	_	63	-,45		.87	•.63	_	7.86	56.29	12 - 5			
C I	I	55	71.0	C	+57	.50		. T5	.66	G	10.59	68.86	11 - 3			
5	0	5	6.5		.01	-,15		+05	30		10.00	\$9.00				
TOTAL		31														
ITEM NUMBER 9					COEFFI	CIENTS	OF C	ORRLI	LATION		HE	ANS				,
OPTION	WT	N	P		P8-ST	PB+TT		₽ \$T	B-TT		ST	TT				
_		6	19.4		48	36		.69	+.52		6.17	51.33				
0	0	_	77.4	c	.58	.41		.80	- 51	C	10.50	67.79	11 - B			
C 1	1	24 I	3.2	·	-+30	16		.73	39	•	7.00	56.00				
5	U	31	3.4		-130		•	• . •	-107			*****				
TOTAL		31				•										
ITEM NUMBER 10					COEFFI	CIENTS	OF C	ORREI	LATION		HE	ANS				
OPT10N	WT	N	P		P8-ST	P8-TT	, 5	•\$T	B-TT		ST	77				
•	0	10	32.3		59	41	•	.77	·# . 54		6.40	58.90				
0 1.7 1 C 1	i	17	54.8	c	195	.31		TB	.39	C	40.04	68.47	13 - 7			
[4]()	ò	4	12.9	•	09	•11		. 15	.16	-	9.50	68.50			1 4 3	
TOTAL	•	31			_,	•••		-							141	

LERTAP 2.0	SUMMARY ITEM STATISTICS	PAGE	58

TEST NO 1 AC	HIEVEMENT	r MONITOR	INC 9U				SUBTES	T 4	SUBTRA	CTION FACTS	
ITEM NUMBER 11	l			COFFFI	CIENTS 0	F CORRE	LATION		, ME	ANS	
OPTION	: WT	N	P	PB-ST	PB-TT	B_ST	8-11		ST	TT	
c	, 0	6	19.4	62	-,36	-,69	-,54		7,67	67.00	
C 1	1	51	67.7	. 59	*55	•7T	.28	Ç	10.6T	67.00	12 - 9
	2 6	4	12.9	09	.15	-,15	.23		9+50	69.60	
TOTAL	•	31									
ITEM NUMBER 12	,			GOEFF1	CIENTS 0	F CORRE	LATION		не	ANS	
OPTIO:	u WT	N	P	PB-ST	PB.TT	6ST	8=T T		ST	TT	
	0	11	35.5	54	-,46	-,69	-,59		8.64	58 • 6 4	_
C 1	1	17	54.8	•58	.38	.13	.48	C	10.BB	69.12	15 - 8
	1 0	3	9.7	I1	.11	-,19	.19		9.33	69.00	
TOTAL		31									

LERTAP 2.0					SUMMA	AY ITEM	STATIST	105				PAGE	31
TEST NO 1 ACH	IEVEMENT	OTINGM	RING 9U					SUBTES	T 5	ADDITI	ON ALGORITHM		
							CF CORRE	I ATTAN		L.E	ANS	ITEM DESCRIPTIONS	114
ITEM NUMBER 1					CUEFF	CIENIS	OF CORNE	,L, -1 1 V N		76		!	
0PT]0H	WT	N	P	,	PB-ST	PB-TT	8-ST	B⊕TT		ST	TT		
0	0	0	• 0		.00	.00	00	.00		.00	.00	43	
C 1	1	31	100.0	C	.00	.00	.00	.00	C	10.94	65.39	45	
5.	0	0	• 0		.00	.00	•00	•00		•00	.00	+ 25	
TOTAL		31											
ITEM NUMBER 2					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		
GPTION	WT	N	P		P8-ST	P8-TT	8~51	0-TT		ST	TT		
												14	
	0	0	• 0	_	.00	.00	•00	•00	_	.00	.00		
Cl	1	30	96.8	C	.30	.15	,58	.24	C	19.13	6 5,63	+ 8 <u>+</u>	
2 TOTAL	0	1 31	3.2		30	12	73	3 0		13.00	56. 00		
10126		31											
ITEM NUMBER 3					COEFF	CIENTS	OF CORRE	CLATION		ME	IANS		
0PT10N	WT	N	P		PB-ST	P8-TT	8-51	B_TT		\$ T	TT	52	
Ó	0	0	.0		.00	.00	.00	.00		.00	.00	- J. I.	
c i	ì	31	100.0	C	.00	.00	.00	.00	C	18.94	65.39	+ 45	
ž	ō	Ó	• 0		.00	.00	.00	.00		.00	• 0 0		
TOTAL		31											
ITEM NUMBER 4					COEFF	CIENTS	of Corre	LATION		Ме	ANS		
MOITEC	WT	N	P		P8-\$T	P8-TT	8 - \$T	8-11		\$T	TT		
								^^			.00	614	
0	•	0	.0	c	.00	.00	.00 .58	.00 .24	C	.00 19.13	65.63	+ 384	
C 1	1	30 1	96.8 3.2	U	•30 ••30	-,12	-,73	30	•	13.00	56.00	T 387	
TOTAL	0	31	316		****	. 114	-6.0			10100			
ITEM NUMBER 9					COEFFI	CIENTS	OF CORRE	LATION		МЕ	ANS		
		N			PB#ST		6-ST	0 - TT		\$T	77	100	
OPTION	hТ				ro-31	P0=11		V		٠,	• •	132	
0	0	0	.0		.00	.00	.00	.00		.00	•00	+ 551	
Ci	i	31	100.0	C	.00	.00	.00	.00	C	10.94	65.39		
	Δ.	^	- 0		. ^ ^	-00	. ^ ^	- ^ ^		-00	- 00		

.00 .00

.00 .00

65.39 .00

145

.00 1**0.9**4

100.0 C

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.00 .00

.00 .00

144

C 1 2 TOTAL

TEST NO 1 ACHIEVEMENT MONITORING 90

SUBTEST 5 ADDITION ALGORITHM

ITEM NUMBER 6					GOEFF:	ICLENTS	OF COR	RELATION		ME	EANS	
OPT:ON	'nΤ	и	P		P8=57	₽ 8∓TT	8+S	T 8=TT		ST	77	
3	0	0	.0		.00	.00	.0	0 .00		.00	•00	E 02
Ç 1	1	31	100.0	C	.00	•00				16,94	65.39	503
2	0	0	.0		.00	.00	.0	.00		.00	.00	+ 293
TOTAL		31										
ITEM NUMBER 7					COEFF	CIENT\$	OF COR	RELATION		ME	EANS	
027 :08	ыT	N	P		P8-S1	P8#TT	8-5	T 8-TT		ST	TT	
0	0	0	.0		•00	.00	.01	.00		.00	.00	56
C 1	1	29	93.5	C	00	*.06	0			18.93	65.21	+ 6
2	0	2	÷.5		.00	.06	.0.			19.00	68.00	
TOYAL		31						-				
TEM NUMBER +					COEFFI	CLENTS	OF COR	RELATION		ME	ANS	
OPTION	¥T	N	P		P8-57	P8-TT	8-51	T 8=TT		ST	TT	29 + 8
່ວ	0	0	•0		.00	.00	.00	.00		.00	•00	+ \$
Ci	ì	29	93.5	C	04	03	*. 01		C	18.90	65.31	<u> 7 8</u>
2	0	2	6,5		.04	.03	.01			19.50	66.50	
TOTAL		31										
ITEM NUMBER 9					COEFFI	CIENTS	of conf	RELATION		ME	ANS	
OPT 10N	WT	N	P		P8-\$1	P8+TT	8-51	8+11		ST	TT	. 6
9	0	0	.0		.00	.00	.00	.00		.00	•00	+ 85
C 3	1	29	93.5	C	.10	. 23	.16	.40	C	19.03	66.03	
S	0	2	6.5		10	23	-,20	44		17.50	56.00	
TOTAL		31				•						
ITEM NUMBER 14					COEFFI	CIENTS	OF CORF	ELATION		мЕ	ANS	
OPT 1 ON	WT	N	P		P8+\$T	PO+TT	8+\$1	8+17		ST	TT	38
0	0	v	.0		.00	.00	.00	.00		.00	•00	+ 45
C j	ì	30	96.8	C	00	14	01		C	18.93	65.10	1 10
2	0	1	3.2		.00	. 14	.01			19.00	T4.00	
TOTAL		31										

LEHIAP 2.0					30								
TEST NO 1 ACH	HEVEMENT	OT INOM	RING 9 U					SUBTES	т :	3 ADDITE	ON ALGORITH	4H	116
ITEM NUMBER 11					COEFFI	CIENTS O	F CORRE	LATION		HE	ANS		•
OPTION	NT	N	P		PB+ST	PB+TT	8-57	B_TT		ST	TŢ		
0	٥	0	.0		•00	•00	.00	•00		.00	.00	20	
C 1	ĭ	31	100+0	C	•00	.00	.00	.00	C	18,94	65.39	29	
ž	ō	Ö	•0	-	+00	.00	.00	• 0 0		•00	• 00	+ 32	
TOTAL		31	•									+ 32	
ITEM NUMBER 12					COEFFI	CIEKTS C	F CORRE	LATION		HE	ANS		
OPTION	WT	N	ρ		P8+8T	PB-TT	B-ST	B+TT		ST	TT		
•								• •		14 00	63.00	ao	
0	0	1	3.2		15	04		~.10				98	
C 1	1	50	64.5	C	,32	. 26	.41	.34	Ü	19.80	67.50 61.40	+ 72	
5	0	10	32.3		**27	25	-,36	33		17.50	01.40	' '-	
TOTAL		31										,	
ITEM NUMBER)3					COEFF	ICIENTS (F CORRE	LATION		ME	ANS		
OPTION		N	P		PB-ST	PBatt	B-ST	8+71		57	TT		
OFITON	771	"	•									167	
9	0	0	.0		.00	.00	.00	•00		.00	•00		
C i		55	71.0	C	.70	,51	, 92	,68	C	20,55	68,95	+ 426	
ž		9	29.0		70	. ,51	-,92	-,68		15.00	56.67		
TOTAL		31											
ITEM NUMBER 14					COEFF	ICIENTS (OF CORRE	LATION		ME	ANS	•	
						_					**		
OPTION	NT	N	P		PB-ST	PBeTT	8-51	8+TT		ST	''	727	
							56	42		15.00	56.50		
ø		5	6.5		29		.95	,63		19.96	67,42	+ 213	
C 3		56	83.9		•65		9B	61		12.67	53.67		
5		3	9.7		57	-,35	•,,,,	-+01		****			
TOTAL		31				•							
ITEM NUMBER 15					COEFF	ICIENTS	OF CORRE	LATION		MI	EANS		
			_					B_TT		ST	TT	409	
OPTION	HT.	N	P		PB-51	PB-TT	8#ST	D - 1 1		31	• • •		
	_				~,3 9	17	86	43		12.00	55.00	+ 383	
0		1	3.2	_	**J5		95	.70		20.12	6B+00		
1.40		25	B0+6		-,55		-,63	67	_	14.40	54.40		149
148		5	16.1		-+33	-,	-,			₩ : ♥ : *			
TOTAL	•	31											

TEST NO 1	ACH	IEVEHENT	MON110	RING 9U					\$V8TE	ST S	AOOIT	ION ALGORIT	THM	
ITEM NUMBER	15					COEFF	ICIENTS	OF COR	RELATION		ME	EANS		
CPT	10N	WT	N	P		P8-ST	Pa-TT	8-5	T B⇔TT		ST	TT		
	0	0	1	3.2		35	17	. .8	643		12.00	55.00		
(Cı	1	25	80.6	C	•51	• -	. 7						155
	5	0	5	16.1	-	38	29	- 5			15.80	50.20		
10	TAL,		31				-		·			- '	+	792
1TEM NUMBER	17					COEFF	ICZENTS	OF COR	RELATION		ME	EANS		
OPT	ION	WT	N	ρ		PB=ST	P8⇔TT	9-5	T 8•TT		51	TT		
	٥	0	1	3.2		~. 35	17		16 -,43		12.00	E= AA		/ > 1
	J 1	ĭ	27	9T.1		•68	17 .40	1.0		С	12.00 19.6>	55.00 67.01		671
·	ż	ō	3	9.7	•	# 5T	35	9			12.67	53.67	+	176
70	TAL	-	31	••.			-,50				12101	00107	•	1 10
ITEM NUMBER	į A					COEFFI	C1ENTS	OF COR	RELATION		ME	ANS		
OPT	• • • •	WT	ĸ	ρ							e-			
UP1	100	*1	K	Ρ.		P8-ST	P8411	8⊷\$	T 8-TT		\$ T	ŤŤ		334
	٥	0	1	3.2		⊷. 35	1T	 .8			12.00			
•	Cl	1	56	83.9	¢	.77	. 43	1.1			20.15		+	484
	. 2	0	4	12.9		66	 38	-1.0	560		12.15	54.75		
10	TAL		31											
17EM NUMBER	19					COEFF	CIENTS	OF CCR	RELATION		ME	ANS		
OPT	10N	WT	N	ρ		P8-\$T	P8-71	8-5	T 8+TT		51	TŢ		479
	0	٥	1	3.2		35	17	 .e	6 -,43		12.00	55.00		•
(Ci	1	20	64,5	C	.68	44	.8				68.90	+	479
	Š	ō	Ĩŏ	32.3	•	≠. 56	- 38	•.7			16.00	59.40		<u></u>
TO	TAL		31				,							
17EM NUMBER	50					COEFFI	CLENTS	OF COR	RELATION		WE	ANS		
OPT	104	WT	N	Ρ		P8 - \$T	P8+TT	8-5	7 8+11		ŞT	ŤŤ		338
		٥	3	9.7		36		4	.1 - 4-		18 **	56.33	+	595
,	0	1	54	77.4		⊶.36 •61	2T	 6			15.00 20.12	96.33 67.46	•	<u> </u>
`	5	å	4	12.0	·	- 45	+•50	-, T			14.75	59.75		
701		•	31	- * "				-,,						
141														

TEST NO 1	ACH; EVEMEN	T MONITOR	U e D NIF					SUBTES	T 5	AODIT1	ON ALGORITH	ĸ	
ITEM NUMBER	21				COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		
OPTI	ON WT	N	P		P8-\$T	PB+TT	8 - \$T	9=TT		ST	TŢ		864
	0 0	4	12.9		37	*429	u.5B	46		15.50	57.25		- •
^	0 0	11	35.5		.67	.83	,86	.68	С	22.18	73.09	+	658
·	5 0	16	51.6	٧	39	31	49	39	-	17.56	62,12		(0) 0 0
TOT	•	31	5115		2007	-101	-•.•	•••					
										Ne	ANS		
ITEM NUMBER	\$5				COEFFI	CIENTS	GF CORRE	LAIIUN		NE	# N 9		
OPTI	ON WT	N	P		PB#ST	90#TT	8-31	8 - TT		\$ T	TT		F 0
		11	35.5		-,43	-, 34	-,56	43		16,62	60.44		59
	0		25.B	С	.58	.60	.79	.81	C	22.50	76,37		13. Q
Ü	2 0	12 12	38.7	·	#:10	→.21	- 15	26	•	18.50	62,58		41
TOT	•	31	30.1		4110	4,61						4-	37
101	AL	31										•	49 37
ITEM NUMBER	23				CGEFFI	CIENTS	OF CORRE	LATION		ME	ANS		
1140	ION WT	Ņ	P		P8-\$1	P8-TT	8 - 5T	B⇒TT		\$1	TŢ		21
		14	45.2		#.6B	-,69	-,B6	87		16.21	57.14		
	0 0 2 1 1	13	41.9		18.	.75	1.02	94	C	22,38	74.92		33
•	•	4	12.9	•	18	m, 08	29	12	-	17.25	63.25	+	50
T01	•	31	12.7		10	w. v	-,					,	<u>59</u>
101	FAL	31											
ITEM NUMBER	24				COEFF	CIENTS	OF CORRE	LATION		ме	ANS		
OPTI		N	P		P8+57	PB=TT	B-ST	6.11		ST	TT		86
	_							→.7 7		16.94	58.94		27
	0 0	16	51.6	_	+:57	61	~,71	.89	c	55.65	77.50	•}•	
(1 1	6	25.B	¢	.60	. 66 . 04	.B1	.06	·	19,29	66.29	- 7"	98
101	2 0	7	55,6		.05					47.67	-0147		-
	_	31				• • •	• • •	•••		•			•

	:15%
	ITEM
	ITEM
•	

LCRT42 2,0	1				SUMMA	AST: YS	STATIST	ics				PAGE 37
TEST NO 1 ACRI	Themsvs	KONITOR	11NG 9U					5VBTES	т 6	SUBTRA	CTION ALGORIT	HH ITEM DESCRIPTIONS
IPEH NUMBER 1					COEFFI	CIENTS	OF CORRE	LATION		ме	ANS	
40;740	wT	N	ρ		PB-ST	PB-TT	9-ST	8-11		ST	TT	
C 1 2 Total	0 1 0	0 29 2 31	.0 93.5 6.5	С	.00 .03 03	.00 03 .03	.00 .05 .05	.00 05 .05	С	.00 12.03 11.50	.00 65.31 66.50	- <u>51</u>
ITEM NUMBER 2					COEFFI	CIENTS	OF CORRE	LATION		ме	AN5	
021102	WT	N	P		P8-ST	P8-TT	8-51	8-11		ST	TT	=0
0 5 1 2 Total	0 1 0	0 2T 4 31	.0 87.1 12.9	С	.00 .24 24	.00 .21 21	.00 .37 38	.00 .32 33		.00 12.44 9.00	.00 66.26 59.50	- <u>43</u>
TEN NUMBER 4					COEFFI	CIENTS	OF CORRE	LATION		ме	ANS	
HOIT40	WT	N	P		P8-ST	P8-TT	8-51	8-11		ST	TT	98
C 1 2 Total	0 1 0	0 30 1 31	.0 96.8 3.2	С	.00 .15 15	.00 .09 09	.00 .29 37	22 22	С	.00 12.13 8.00	.00 65.57 60.00	- <u>25</u>
ITEM NUMBER 4					COEFFI	CIENTS	OF CORRE	LATION		HE	ANS	
OPTION	WT	N	P		PB-ST	P8=TT	8-51	8=11		ST	TT	Q15
0 C 1 2 Total	0 1 0	0 29 2 31	.0 93.5 6.5	С	.00 .00	-00 -04 -04	.00 .00	.00 =.07 .08	¢	.00 12.00 12.00	.00 65.28 61.00	915 - <u>411</u>
ITEM NUMPER &					COEFFE	CIENTS	OF CORRE	LATION		• м	AN\$	
OPTION	WT	N	p		P8+ST	P8-TT	8#\$1	8 - TT		ST	TT	293
C 1 2 Total	0 1 0	0 29 2 31	93.5 6.5	С	.00 .30 30	.00 .23 23	.00 .53 58	.00 .40	С	.00 12.38 6.50	.00 66.03 56.00	- 140

ERIC
Full Text Provided by ERIC

TEST NO 1	ACHIEVE	INDM THEM	TORING 9U						SUBTE	ST 6	SUB TR	ACTION ALG	DRITHM
ITEM NUMBER	6				COEFF	1C1ENTS	of	CORRE	LATION		мб	EANS	
OPT	ION #	T N	P		P8#\$T	PB-TT		8 - \$T	9-TT		ST	TT	
	0	0 0	.0		.00	.00		.00	.00		•00	.00	
1	Cl	1 29	93.5	C	.27	,23		.48	.40	С	12.34	66.03	898
	_	0 5	6.5		w.2T	23		- 53	44	-	T.00	56.00	1117
TO	TAL	31						-			,,,,		- 443
ITEM NUMBER	7				COEFF	ICIENTS	of	CORRE	LATION		мЕ	ANS	
OPT	ION ¥	T N	P		PB-ST	P8_TT		8 - ST	8 - TT		ST	TT	
	0	0 0	.0		•00								52
•		1 19	61.3		•53	.00		•00 •68	.00 .6T		.00	.00	υp
•		0 12	38,7	•	53	.\$3 53		68	67	٠	14.05	69.95 58.17	- ⁵³
TO	•	31	351		-193	-193		-,00	-,01		6.75	98.11	
ITEM NUMBER	A				COEFFI	ICIENTS	OF	CORRE	LATION		ME	ANS	
		_				_							
OPT		•	P		PB+ST	P8_TT		B_ST	8-11		ST	TT	34
		0 1	3,2		10	1T		-,46	43		7.00	\$5.00	
(•	1 19	61.3	C	. 64	.52		.82	.66	C	14.4T	69.84	- 6
		0 11	35.5		59	-,46		TB	 59		8.18	58.64	-
TOT	TAL	31											
							- 8)						
ITEM NUMBER	9				COEFFI	CIENTS	OF	CORRE	LAT 10N		мЕ	ANS	
OPT I	ION WI	T N	P		P8-\$T	P8_TT		8 - \$T	0.TT		ST	TT	67
		0 2	6.5		24	+.19		₩.4B	+.3T		T.50	51.50	<u> </u>
C	1 1	1 19	61.3	C	.63	.48		.80	.61	C	14.42	69.63	
	5 (0 10	32.3		++53	40		+,69	52		8.30	59.10	
101	AL	31				,							
ITEM NUMBER	10				COEFFI	CIENTS	of	CORRE	LATION		ME	ANS	
OPT I	ON W1	T N	P		P8_\$T	P8.TT		8 . \$T	8.TT		ST	TT	= 4
					14				- 40		•	-	70
		-	3.2	_	19	-,1T		46	₩.43		T.00	55.00	- 30
	1 1	-	58.1	C	.68	.84		.85	481	C	14+T#	T1+26	<u> </u>
150 ror		31	38.T		62	-,58		-, T8	⇒. T4		6.25	5T.42	
100 101	AL	31											

CONTION NT N P PB-ST PB-TT B-ST B-TT ST TT ST TT ST TT ST TT ST TT ST S	TEST NO ; ACH	IEVEHEN.	T MONITO	UP BAIF						SUBTES	FT 6	SUBTRA	CTION ALGO	A:THM
C 0 1 1 3.2 11.0 C	ITEM NUMBER 11-					COZFF	ICIENTS	OF	CORRE	LATION		МЕ	ANS	
C 1 1 22 T1.0 C .69 .61 .91 .89 C 14.14 70.05	OPTION	WT	N	P		P6+ST	P8-TT		8+\$ T	8-11		ST	TT	
C 1 1 28 71.0 C .69 .61 .91 .89 C 14.14 70.05	c	0	1	3.2		19	 17		-,46	43		T.00	55.00	53
TOTAL ITEM NUMBER 12 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT C1 1 22 71.0 C .71 .70 .73 .75 .83 52.83 C1 1 22 71.0 C .71 .70 .73 .75 .72 5.83 52.83 ITEM NUMBER 13 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT C 0 4 12.928 .24 .44 .39 B-50 58.50 58.51 -225 TOTAL 31 ITEM NUMBER 14 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT C 0 14 45.256567170 9.00 58.71 -225 ITEM NUMBER 14 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT C 1 1 13 41.9 C76567170 9.00 58.71 - 529 TOTAL 31 ITEM NUMBER 15 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT C 1 1 13 41.9 C76739692 C 16.31 74.69 - 529 TOTAL 31 ITEM NUMBER 15 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT 9.00 68.71 TOTAL 31 OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT 9.00 68.71 TOTAL 31 ITEM NUMBER 15 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT 95.22 O 0 6 6 19.434444963 8.67 55.67 - 843	C 1	1	55		C	.69	.61		.91	.89	C	14.14	70.05	— 3π⁻
TOTAL ITEM NUMBER 12 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT C1 1 22 71.0 C .71 .70 .73 .75 .83 52.83 C1 1 22 71.0 C .71 .70 .73 .75 .72 5.83 52.83 ITEM NUMBER 13 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT C 0 4 12.928 .24 .44 .39 B-50 58.50 58.51 -225 TOTAL 31 ITEM NUMBER 14 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT C 0 14 45.256567170 9.00 58.71 -225 ITEM NUMBER 14 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT C 1 1 13 41.9 C76567170 9.00 58.71 - 529 TOTAL 31 ITEM NUMBER 15 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT C 1 1 13 41.9 C76739692 C 16.31 74.69 - 529 TOTAL 31 ITEM NUMBER 15 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT 9.00 68.71 TOTAL 31 OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT 9.00 68.71 TOTAL 31 ITEM NUMBER 15 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT 95.22 O 0 6 6 19.434444963 8.67 55.67 - 843		0											53. 8 7	27
OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT 93	TOTAL		31											
0	ITEM NUMBER 12					COEFF	ICIENTS	0F	CORRE	LATION		МЕ	ANS	
C 1 22 71.0 C 71 170 171 170 171 170 171 170 171 170 171 170 171 170 171 170 171 170	OPT; ON	WT	N	P		PB-ST	PB≖TT		8 - \$7	8-11		\$1	77	83
C 1 1 22 71.0 C .TT .TO .93 .93 C 14.18 70.27 TOTAL 31 ITEM NUMBER 13 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P P8-ST P8-TT 8-ST 8-TT ST TT C 0 4 12.928244439 8.50 58.50 8.51 - 225 TOTAL 31 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P P8-ST P8-TT 8-ST 8-TT ST TT C 0 4 12.928244439 8.50 58.50 9.00 58.T1 - 225 ITEM NUMBER 14 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P P8-ST P8-TT 8-ST 8-TT ST TT O 0 4 12.928244439 8.50 58.50 - 525 C 1 1 1 13 41.9 C .T6 .T3 .96 .92 C 16.31 74.69 - 529 TOTAL 31 ITEM NUMBER 14 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P P8-ST P8-TT 8-ST 8-TT ST TT TOTAL 31 ITEM NUMBER 15 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P P8-ST P8-TT 8-ST 8-TT ST TT 9.50 58.50 - 529 TOTAL 31 41.9 C .T6 .T3 .96 .92 C 16.31 74.69 - 529 ITEM NUMBER 15 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P P8-ST P8-TT 8-ST 8-TT ST TT 9.52 O 0 6 19.434444963 8.67 55.67 - 843 C 1 1 1 3 41.9 C .T3 .T5 .92 .74 C 16.15 74.92 - 843 C 1 1 1 3 41.9 C .T3 .T5 .92 .74 C 16.15 74.92 - 843 C 1 1 1 3 41.9 C .T3 .T5 .92 .74 C 16.15 74.92 - 843	ð	0	3	9.7		25	32		43	. 56		8.33	54.67	
TOTAL 31 TOTAL 31 TOTAL 31 TOTAL 31 COEFFICIENTS OF CORRELATION MEANS OPTION MT N P PB-ST PB-TT 8-ST 8-TT ST TT C 0 4 12.9	_			_	C						С			- 41
TOTAL 31 ITEM NUMBER 15		ō			•		±.51				-			
OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT C 0 4 12.9	TOTAL		31	•			-		•					
C	ITEM NUMBER 13					COEFFI	CIENTS	OF	CORRE	LATION		нЕ	ANS	
TOTAL 1 1 13 41.9 C 16 17 17	OPTION	WT	N	P		P8-ST	PB.TT		B-ST	8-11		\$T	TT	
TOTAL 1 1 13 41.9 C 16 17 17	ć	0	4	12.0		2a	24		44	39		8.50	58.50	864
TOTAL 0 31 45.256567170 9.00 58.T1 225 ITEM NUMBER 14 COEFFICIENTS OF CORRELATION MEANS OPTION MT N P PB-ST PB-TT B-ST B-TT ST TT 774 C 1 1 13 41.9 C .76 .73 .96 .92 C 16.31 74.69 -529 TOTAL 31 COEFFICIENTS OF CORRELATION MEANS OPTION MT N P PB-ST PB-TT B-ST B-TT ST TT 9.00 58.71 ITEM NUMBER 15 COEFFICIENTS OF CORRELATION MEANS OPTION MT N P PB-ST PB-TT B-ST B-TT ST TT 952 C 1 1 1 13 41.9 C .73 .75 .92 .94 C 16.15 74.92 -843 C 1 1 13 41.9 C .73 .75 .92 .94 C 16.15 74.92 2 0 12 38.T -47405951 9.17 59.92			-		C						C			
TOTAL 31 ITEM NUMBER 14 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT O 0 4 12.928244439 B.50 58.50 -529 C 1 1 13 41.9 C .76 .73 .96 .92 C 16.31 74.69 -529 TOTAL 31 ITEM NUMBER 15 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT O 0 6 19.434444963 B.6T 55.67 - 843 C 1 1 13 41.9 C .73 .75 .92 .94 C 16.15 74.92 2 0 12 38.747405951 9.17 59.92	2				•									- 225
OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT 0 0 0 4 12.928244439 B.50 58.50 -529 C 1 1 13 41.9 C .76 .73 .96 .92 C 16.31 74.69 -529 TOTAL 31 TOTAL 31 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT 952 O 0 0 6 19.434444963 B.67 55.67 - 843 C 1 1 13 41.9 C .73 .75 .92 .94 C 16.15 74.92 2 0 12 38.747405951 9.17 59.92	LATOT		31											
0 0 4 12.928244439 B.50 58.50 - 529 C 1 1 13 41.9 C .76 .73 .96 .92 C 16.31 74.69 - 529 TOTAL 31 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT 95.0 C 1 1 13 41.9 C .73 .75 .92 .94 C 16.15 74.92 C 0 12 38.T47405951 9.17 59.92	ITEM NUMBER 14					COEFF	CIENTS	0F	CORRE	LATION		ME	ANS	
C1 1 1 13 41.9 C .T6 .T3 .96 .92 C 16.31 74.69 — 529 TOTAL 31 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT 952 C1 1 1 13 41.9 C .T3 .T5 .92 .94 C 16.15 T4.92 2 0 12 38.T -47 -40 -59 -51 9.17 59.92	OPTION	WT	N	P		PB-ST	PB+TT		8+57	8-11		\$T	TT	55 1.
C 1 1 13 41.9 C .T6 .T3 .96 .92 C 16.31 74.69 2	٨	٥	4	12.9		2B	u.24		44	39		8.50	58.50	
TOTAL 31 TOTAL 31 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT 952 O 0 6 19.434444963 8.6T 55.67 - 843 C1 1 1 13 41.9 C .73 .75 .92 .94 C 16.15 T4.92 2 0 12 38.T47405951 9.17 59.92		-		•	C						С			- 529
TOTAL 31 ITEM NUMBER 15 COEFFICIENTS OF CORRELATION MEANS OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT Q52 0 0 6 19.434444963 8.67 55.67 - 843 C1 1 1 13 41.9 C .73 .75 .92 .94 C 16.15 74.92 2 0 12 38.747405951 9.17 59.92		_			•				- 71					
0 0 6 19.4344463 8.67 55.67 - 843 C1 1 13 41.9 C .73 .75 .92 .94 C 16.15 74.92 2 0 12 38.747405951 9.17 59.92	TOTAL		31											
0 0 6 19.4	ITEM NUMBER 15					COEFFI	CLENTS	0 F	CORRE	LATION		ME	ANS	
C 1	OPTION	WT	N	P		PB-ST	P8#TT	;	8-57	8+11		ST	TT	952
C 1	0	0	6	19.4										- 843
2 0 12 38.T47405951 9.17 59.92	C 1	1	13		C		.75			.94	C			
TOTAL 31	Ş	0	15	38.T		47			., 59	51		9.17	59.92	
	TOTAL		31											

TEST NO 1 ACF	HIEVEME I	T MONITOR	ING 9U					\$UBTE:	3T 6	S SUBTRA	CTION ALGO	RITHM
ITEM NUMBER 16					COEFF	CIENTS	OF COAR	ELATION		ME	ANS	
OPTION	WT	N	P		P8-81	P8-TT	8 - \$T	8+11		ST	TT	
0	0	5	16.1		33	÷.48	-,49	*.72		8.40	53.60	
Cı	1	11	35.5	C	.17	.69	.99		C	1T.00	T5.55	614
5	0	15	48.4		-,49	31	62	39		9.53	61.87	
TOTAL		31						·				- 384
ITEM NUMBER 17					COEFFI	CIENTS	OF CORR	ELATION		не	ANS	
OPTION	WT	N	P		P8-5T	P8-TT	R-\$T	8+TT.		\$T	TT	
0	0	5	16.1		33	48	-,49	7.2	•	8,40	53.60	929
c i	ì	10	35.3	C	.61	, T4	1.06		. с	17.70	17.00	•
ž	ŏ	16	51.6	•	52	34	65	43	•	\$∠56	61.81	- 536
TOTAL	·	31			••••		-,44			2750	01101	<u> </u>
ITEM NUMBER 18					COEFFI	CLENTS	OF CORR	ELATION		ME	ANS	
OPTION	WT	N	P		P8-\$T	P8-TT	8- \$T	8-11		51	TT	639
0	0	8	25.0		18	29	-,28	39		10.50	60.12	
Ci	1	8	25.8	C	.61	.54	.83	. 73	C	17.00	T5.37	- 243
2	ò	15	48.4		3T	22	47	28		10.13	62,87	
TOTAL		31								*****	• - •	
ITEM NUMBER 19					COEFFI	CIENTS	OF CORR	ELATION		ME	ANS	
OPT1CN	WT	N	P		P8-ST	P8-TT	8-51	8-11		\$T	TT	0.4.1
0	0	12	38.7		10	21	12	2T		11.42	62.50	824
C i	i	3	9 . T	C	.56	.52	.97	.90	C	20.33	82.67	
	ŏ	16	51.6	•	24	10	30	13		10.8T	64.31	- 628
TOTAL		31				•						
ITEM NUMBER 20					COEFFI	CIENTS	OF CORR	ELATION		HE	ANS	
OPTION	WT	N	P		P8-51	P8-TT	8#61	B-TT		ST	TT	942
0	0	14	45.2		09	19	•.12	24		11.50	63.07	- 505
Ci	i	4	12.9	C	.66	.63	1.05	1.01	C	20.25	83.25	- <u>595</u>
1 2 d = 2	ò	13	41.9		35	24	44	30		10.00	62,38	
TOTAL		31								-	•	

								m 0.n						
TEST NO 1	ACH	1EVEKENT	MONITO	alwe an					SUBTE	ST 6	SUBTR	ACTION ALG	OR I THM	/
BAMUM METE	R 21					COEFF	CLENTS	OF CORRE	LATION		М	EANS		
0	PT 10N	wT	N	P		PB-ST	P8-TT	0-51	8-11		ST	TT		
	0	0	15	48.4		17	. +,24	-,22	30		11.13	62.73		000
	C 1	1	3	9.7	C	.34	.37	.58	. 64	C		77.6T		328
	5	0	13	41.9		03	.02		.02		11.05	65.62	-	169
	TOTAL		31				• • •	•	•			40040		101
ITEM NUMBE	8 55					COEFF	CIENTS	OF CORRE	LATION		ME	EANS		
0	PTION	WT	N	P		P8=51	PB-TT	8-51	8-11		ST	TT		
	0	0	16	51.6		08	14	10	10		11.62	63.BT		
	Ci	i	. 2	6.5	C		45		. 88		21.00	84.00		710
	• 2	ō	13	41.9	•	16	-,08		10	•	11.08	64.38		710
	TOTAL	·	31	7.17		****	*,**	-120	-110		11100	04.30		469
ITEM NUMBE	R 23					COEFFI	CLENTS	OF CORRE	LATION		мб	AN5		
0	PTION	WT	N	P		P8=5T	P8=TT	B.ST	B _* TT		51	TT		
	0	0	17	54.8		16	21	-,20	~.2 T		11.29	63,29		843
	Cl	1	0	.0	C	.00	.00	.00	.00	C		• 0 0		803
	2	0	14	45.2		.16	.21	.20	.27		12.86	67,93	_	427
•	TOTAL		31											
ITEM NUMBE	R 24					COEFFI	CIENTS	OF CORRE	LATION		нЕ	ANS		
• 01	PT 10N	WT	N	P		P8=5T	P8-TT	B-ST	B⊭TT		ST	TT		
	e	0	17	54.8		-, lá	21	-,20	27		11.29	63.29		600
	Ci	1	0	• 0	C	.00	.00	.00	.00		.00	• 00	_	212
	2	ō	14	45.2	-	.16	.21	.20	27	-	12.86	67.93		***
•	TOTAL		31	· · · - -				• .				-		
	-													

SUMMARY ITEM STATISTICS

LERTAP 2.0 OBJECTIVES TEST SUBTEST 1 ACHIEVEMENT MONITORING 9V TEST NO 1 ITEM DESCRIPTIONS **MEANS** COEFFICIENTS OF CORRELATION ITEM NUMBER 3-ST ST TT PB-SY PB-TT OPTION WT 12.29 69.00 93.3 C .63 .17 20 CI .10 Numerousness .06 .00 .00 . 00 .00 .00 2 .0 Writes 0-99 .00 . 00 0 .00 .00 3 .0 .00 .00 65.50 2 ~.91 -.1B 9.50 6.7 -.10 TOTAL 30 COEFFICIENTS OF CORRELATION MEANS ITEM NUMBER B_ST ST TT W7 PB-ST PB-TT OPTION .00 .00 .00 .00 .00 .00 .0 Numerousness C 12.11 68.87 .03 .09 28 .02 .05 C 2 93.3 Represents 0-99 -.10 12.00 67.00 2 -.02 -.05 -.04 6.7 3 .00 0 .00 .00 .00 .00 .0 .00 30 TOTAL COEFFICIENTS OF CORRELATION MEANS ITEM NUMBER ? TT ST PB-ST P8-TT WT N OPTION . 36 69.62 Ç 12.50 86.7 C .24 1.06 56 .69 C 1 Problem Solving (A) -.95 -.2B 9.00 **43.00** 1 3.3 -.39 -.12 3 Comparison 11-15 63.33 ...94 -.34 9,67 3 -.55 -.20 0 10.0 3 .00 .00 .00 .00 0 .0 .00 .00 30 TOTAL COEFFICIENTS OF CORRELATION HEANS ITEM NUMBER 4 TT ST WT P8-57 P8-T7 OPTION N .00 .00 .00 .00 .00 ..05 1 0 .0 Problem Solving (A) .00 .00 .00 .00 .00 .00 Û 0 .0 5 Add-part part whole 0-99 68.77 12.10 .00 .00 C 3 1 30 100.0 .00 .00

.00

.00

.00

0

30

. 0

.00

.00

.00

165

PA0E 16

124

TOTAL

OPTION	WT	, N	* Р		P8-ST	P8-TT	B-ST	B=TT		\$T	דל	ŧ
1 2	0	0	•0		•00	.00	•00	.00		.00	.00	Problem California (n)
C 3	ĭ	30		C	.00	.00	.00		C	12.10	68.77	Problem Solving (B) Subt-part part whole-addend
TOTAL	ũ	30	• 0		•00	•00	•00	.00		•00	.00	11-15
ITEM NUMBER 126					COEFFI	CIENTS (OF CORRE	NOITA		ME	ANS	
OPTIGN	wT	Ŋ	P		P8~ST	PB-TT	8-57	8-77		ST	TT	
C 1	1	24	80.0	C	.43	.36	.61	.51	c	12.42	70.42	
2	0	1	3.3		01	14	₽.03	33		12.00	62.00	Problem Solving (B)
3	0	3	10.0		40	33	69	57		10.33	59,67	Subt-join-addend 0-99
4	0	Ş	6.7		20	08	39	16		11.00	66.00	
TOTAL												

LERTAP 2.0 SUMMARY ITEM STATISTICS PAGE 17 ACHIEVEMENT MONITORING 9V OBJECTIVES TEST SUBTEST 1 ITEM NUMBER COEFFICIENTS OF CORRELATION MEANS OPTION Ρ TT WT PB-ST PB-TT 8-ST B-TT ST. 66.83 20.0 +.21 +.15 21.67 -.15 -,11 Order, Place Value CS 19 63.3 .ST . 13 .20 C 12.74 69.84 .10 Ordering 0-99 -.29 -.56 65.50 6.7 10.50 3 ·.18 -.10 3 10.0 ... -.65 58.00 -.48 +.03 10.00 TOTAL ITEM NUMBER 98 COEFFICIENTS OF CORRELATION MEANS OPT10N TT WT PB-ST #B-TT B-ST B-TT ST .48 .29 12.82 72.21 ¢ι 11 36.T C .31 .37 C 66.33 12.00 5 20.0 +.03 -.13 +.05 -.19 0 6 Order, Place Value 13.3 66.25 -.23 +,36 11.25 0 +.11 +.17 Place Value 0-99 168 •,35 61.14 7 0 23.3 -.25 -.14 11,43 .07 OTHER S 6.7 12.50 67.50 +.07 TOTAL 30

ERIC

167

OPTION	₩T	N	P	P8+	ST P8-TT	8 -\$ T	8-11		\$1	TŢ	•	
C 2 3 4 Total	0 1 0 0	0 29 0 1 30	.0 96.7 .0 3.3	c .	00 .00 0113 00 .00 01 .13	.03 .00 .00	.00 24 .00 .31	c	.00 12.10 .00 12.00	.00 68.55 .00 75.00	Sentence Writing (A) Subt-simple separating 11-15	126
ITEH NUHBER AN)			COE	FFICIENTS (OF CORRE	LATION		ME	ANS		
OPTION	WT	٨	P	P8+	5T ₽8+TT	8-\$1	8-11		ST	ΤŢ		
1 2 C 3 TOTAL	0 0 1 0	4 0 26 0 30	13.3 .0 86.T	c .	+9 +.11 00 .00 49 .11 00 .00	.00 .76	17 .00 .17	С	10.25 .00 12.38	66.25 .00 69,15	Sentence Writing (A) Subt-comparison 0-99	
-	! FVFMFN7	· MANT TAS	orna av	S¥	HMARY ITEM	STATIST		7 1	OBJECT	IVES TEST	PAGE 18	
		: Monitor	8 1 00 3 0				SUBTES	т 1		IVES TEST	PAGE 18	
-		MONITGE N	P V€ 0N15		FFICIENTS (SUBTES	т 1		IVES TEST Ans	PAGE 18	

COEFFICIENTS OF CORRELATION

HEANS

ITEM NUMBER 3512 MEANS COEFFICIENTS OF CORRELATION ŢŢ OPTION B-\$1 B₊TT **5**T MT P8-ST P8-TT 163 68.77 .00 .00 .00 .00 .00 Sentence Writing (B) Add-simple joining 0-99 .00 12.10 C S 100.0 30 .00 .00 .00 •00 .00 .00 .00 3 .00 .00 .00 . 0 .00 .00

163

ERIC Provided by ERI

TOTAL

30

71

ITEM NUMBER

LERTAP 2.0					SUMMA	HT TIEM	2111121	103				
TEST NO 1 ACHI	EVEKENT	HON!TO	R1NG 9V					SUBTES	iT 1	OBJECT	IVES TEST	
ITEM NUMPER 13					COEFFI	CIENTS O	F CORRE	LATION		ME	ANS	
OPTION	wT	N	P		P8+\$T	P8-77	8-57	8-11		\$T	TŢ	
C 1	1	59	96.7	C	. 39	.12	. T6	.23	¢	12.21	68.9T	
Ş	Ö	1	3.3		39	12	95	28		9.00	63.00	Algorithms
3	Ö	ŏ	. 0		.00	•00	.00	.00		.00	.00	Addition Algorithm
4	0	0	.0		• 00	• 00	.00	.00		.00	.00	_
_ATOT		3¢										
ITEM NUMBER 14					COEFFI	CJENTS O	F CORRE	LATION		ME	:ANS	
OPIICN	WT	Ŋ	P		PB-\$1	P8-TY	8-51	8-11		ST	TT	
1	٥	4	13.3		-,2 3	13	-,36	20		11.25	65.75	
į	ò	0	. 0		.00	.00	.00	.00		.00	.00	Algorithms
С 3	i	26	86.1	C	.23	.13	.35	.20	Ç	12.23	69,23	Subtraction Algorithm
4	ŏ	0	# 0		.00	• 00	• 00	.00		.00	.00	
TOTAL		30										

LERTAP 2.0												
TEST NO 1 ACHI	EVEHEN	T MONITOR	RING 9V					SUBTES	T 2	SENTEN	CE WRITING	FREF RESPONSE
1TEM NUMBER 1					COEFF1	Clents (F CORRE	LAT 10N		ME	ANS	ITEM DESCRIPTIONS
•	wT		P		28- 57	P8-TT	8 ⇔ S T	8-TT		ST	TT	
OPTION	W	٨	•								••	
n	0	0	.0		.00	.00	.60	.00	_	.00	.00 6 8.77	Sentence Writing
C 1	3	30	100.0	C	.00	.00	.00	.00	С	3.60	.00	Aud-part part whole 11-15
ž	ō	Ö	.0		.00	.00	.00	.00		•00 🧓	٠.	•
TOTAL		30										
										ME	ANS	
TEM NUMBER >					COEFFI	CLENTS	OF CORRE	FATION		716		
OPTICN	WT	N	P		P8-ST	₽8 ⊷TT	8~5 T	8-11		ST	Ţĭ	
	_				.00	.00	.00	.00		.00	.00	Sentence Writing
P	0	0	.0 95.7	С	.20	21	.39	40	С	3.62	68.41	Subt-simple separating 0-99
Ci	1	29	3.3	L	20	.21	49	.50		3.00	79.00	part oxights personally of the
5	0	1 30	3.3		*120	•••	•	•				
TOTAL		30										
	`-				COFFF	CSENTS	OF CORRE	LATION		ME	ANS	
ITEM NUMBER 3					0021							•
0PT10N	WT	N	P		PB-ST	P8-TT	8-ST	8+TT		51	77	
4. · · • · ·			_				.00	.00		.0ŭ	.00	
0	0	0	.0	_	.00	.00	,93	•45	C	3.68	69.39	Sentence Writing
C 1	1	28	93.3	¢	.53 53	-,26	-1.02	50	•	2.50	60.00	Subt-part part whole-addend
5	0	2	6.7			•,20	-2104					0-99
TOTAL		30										
					COEFF	ICIENTS	OF CORRE	LATION		М	EANS	
ITEM NUMBER 4								8-11		51	77	
OPTION	WT	N	P		PB+ST	PB+TT	8-51	9		31		
0	•	0	.0		.00	.00	. 00	.00		.00	•00	Sentence Writing
	ĭ	21	70.0	C	.84		1.11	.46		3.96	71.76	Subt-join-addend 11-15
C 1	Ď	- 9	30.0	•	64	50	-1.11	46		2.59	61.78	
TOTAL	•	30										
10186						•						

TEST NO :	CHIEVENEL	T 40										
1231	CHIE 4 EMEN	II MONIT	OHING SA					SUBTE	ST	3 ADOIT	ION FACTS	
ITEM MUMBER	1				COEFF	1CIENTS	OF CORRE	ELATION		м	EANS	TOTAL STOOMS THE SAME
OPTIC	N WT	N	Р		PB#ST	PB=TT	8 - 51	B≈TT		ST	ŤŤ	ITEM DESCRIPTIONS
	-	0	.0		.00	•00	.00	.00		.00	- 00	
C	1 1	29	96.7	C	.69		1.33	, 66	c	11.00	69.34	
	- •	1	3.3		69		-1.6T	- 83	•	4.00	52.00	3 + 1
TOTA	·L	30				•	•	V - -		4.00	-4100	
ITEM NUMBER	۶				CCEFF	ICIENTS	OF CORRE	LATION		н	EANS	
OPTIO	N NT	N	Р		P8-ST	PB-TT	8-57	B=TT		ST	ŤŤ	
	0 0	1	3.3		69							
С	•	29	96.1		169	• • •	-1.67				\$5.00	3 . 4
	2 0	-0	.0		•00		1.33			11.00	69.34	2 + 5
TOTA		30	••		.00	•00	•00	•00		• 30	•00	
ITEM NUMBER	ą				COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
OPTIO	N WT	N	P		P8-ST	P8-TT	B=ST	B⇒TT		ST	TT	
	6 0	1	3.3		69	34	_1.6T	83		4 00	50.04	
c	1 1	29	96 . T		.69					4.00 11.00		
	a o	0	• 0		•00	.00	.00	.00		.00	69.34	1 + 6
TOTA	L	30			•••	•••	•••	•••		•00	•00	
ITEM NUMBER	6				COEFFI	CIENTS (OF CORRE	LATION		MĒ	ANS	
001740	Tw .	N	P		PQ-ST	P8-TT	B-ST	B⇔TT		ST	TT	
•		0	.0		.00	• 20	•00	.00		- 00	•00	
Ċ	1	30	100.0	C	•00	•00	.00			10.77		7 + 2
_ :	-	0	.0		.00	•00	.00	,00		•00		, , <u>-</u>
TOTAL	•	30				,	•••	,		•••	•••	
ITEN NUMBER	i				COEFFI	CIENTS 0	F CORREL	ATION		ME	ANS	
- 0710	ı WT	N	Р		P8-51					ST		
(. 0	1	3.3		~.16							
c i		29	96.T		18 -18		***	04		9.00		2
a		0	.0	•	•16	•02	.35	•03	Ü		68.79	2 + 6
TOTAL	•	30	• •		100	•00	.00	.00		.00	• 0 0	
	,	••										



TEST	NO 1
ITEM	NUMBER
	OF
	1

LERTAP 2.0

SUMMARY ITEM STATISTICS

PAGE 24

TEST !	NO 1 ACH	I E V E K E N	T MONITO	RING 9V					SUBTE	ST	3 ADDIT	ION FACTS		
ITEM !	NUMBER 6					COEFF	ICIENTS	OF CORRE	LATION		м	EANS		
	OPTION	WT	N	P		₽ 8 -ST	P8-TT	8-57	Batt		ST	TT		
	0	0	1	3.3		16	12	44	28	•	9.00	63.00		
	CI	1	29	96.7	C	.18		_		C	10.83	68.97	3 + 5	
	2	0	0	• 0		.00	.00		.00		.00	•00		
	TOTAL		30											
ITEM P	NUMBER 7					COEFF	ICIENTS	OF CORRE	LATION		M	Ean s		
	MOITAO	WT	N	P		P8-ST	P8-TT	B=\$T	B-TT		\$T	TT		
	0	0	2	6.7		 TT	40	~1.49	T8		5.50	55.00		
	Ci	1	21	90.0		.81	.50		.82		11.26	T0.30	4 + 8	
	2	0	1	3.3		28	28		6B		8.00	55.00		
	TOTAL		30											
ITEM N	NUMBER A					COEFF	CIENTS	OF CORRE	LATION		МЕ	EANS		
	NOITEO	WT	N	2		PB=ST	P8-TT	8-ST	8-11		57	TT		
	. 0	0	2	6.T		48	36	93	69		T.50	56.50		
	Cl	1	28	93.3	C	.48	. 36	_	. 63		11.00	69.64	3 + 7	
	2	0	0	.0		.00	.00	.00	.00		. 00	•00		
	TOTAL		30								•			
ITEM N	WABER 9					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		
	OPTION	WT	N	P		P8-ST	PB-TT	8-ST	B ₊ TT		\$T	TT		
	0	0	5	16.7		83	w. 4T	-1.23	70		7.40	59.20		
	C j	1	23	76 . T		.75	.43	1.03	.59		11,52	T0.91	5 + 9	
	2	0	2	6.7		.04	02	08	₩.04	-	10.50	68.00	7 + 9	
	TOTAL		30				,							
ITEM N	UMBER 10					COEFFI	CIENTS	OF CORRE	LATION		ИΕ	ANS		
	OPTION	WT	N	P		P8-51	P8-TT	8-\$1	8-11		\$T	TT		
	0	0	5	16.T		73	 38	-1.09	51		7.80	61.00		
	C 1	1	23	T6.7		•71	.31	97	.43	C	11.48	70.35	6 + 8	4
2 m 2	2	0	2	6.7		•.11	.04	55	.07		10.00	70.00	3	1
178	TOTAL		30											

TEST NO 1	ACHIEV	'EMERT	MGNITO	RING 9V					SUBTES	s† 3	ADDITI	ON FACTS	
ITEM NUMBER	11					COFFFI	CIENTE	OF CORRE	LATION		ме	EANS	
OPTI	CN	WT	N	P		Pa-st	P8-11	8-51	8-11		ST	TT	
	0	0	5	16.7		63	-,39	94	58		8.20	60.80	
C	1	1	50	66.T	C	.53	.32	.69	. 42	C	11.45	70.85	8 + 7
	8	G	5	16.7		04	02	06	.03		10.60	68.40	
101	AL		30										
ITEM NUMBER	12					COEFFI	CIENTS	OF CORRE	LATION		ме	AN5	
0971	0n	WT	n)	P		P8-S1	P8-11	8-51	8-11		51	11	,
	0	¢	3	10.0		~.51	₩.25	87	42		8.00	62.00	
¢	1	1	27	\$0.0	C	•51	.25	.82	.40	C	11.07	69.52	4 + 9
	2	C	0	.0		.00	.00	.00	.00		.00	• 0 0	-
101	AL		30					•					
	~ -		-										

SUBTEST	4	SUBTRACTION	FACTS

TEST NO 1 ACHI	EVEHENT	r MONITO	RING 9V					SUBTES	T 4	SUSTRA	CTION FACT	s	
ITEM NUMBER 1					COEFFI	CIENTS	OF COARE	LATION		ME	ANS	1TEM DESCRIPTIONS	
OPTIO4	'nΤ	N	P		₽8 ÷ ST	PB+TT	BEST	B-TT		S 7	TŢ		
0	0	0	0		.00	.00	.00	.00		.00	.00		
Ci	1	30	100.0	C	•00	.00	.00	.00	C	10.3T	68.77	7 - 1	
Š	0	0	.0		•00	.00	.00	.00		•00	.00		
TOTAL		30											
ITEM NUMBER >					COEFFI	ICIENTS	OF CORRE	LATION		мЕ	ANS		
OPTION	WΤ	N	P		P8-ST	PB-TT	B⇒ST	B⇒TT		ST	TT		
	^		^			•00	.00	.00		.00	•00		
0 C 1	0 1	0 30	.0 100.0	_	.00	•00	.00	•00	C	10.37	68.77	.8 - 4	
2	٥	0	.0	•	•00	•00	.00	.00	•	•00	•00	4 - 4	.
TOTAL	•	30	•••		•••		•						•
ITEM NUMBER 3					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		
_			_										
OPTION	WT	N	P		P8#S7	PB_TT	B.ST	8-11		ST	T7		
0	0	0	.0		.00	.00	.00	.00		.00	•00		
Ci	ĭ	30	100.0	C	.00	.00	.00	.00	C	10.3T	68.77	9 - 5	
ż	- 0	Ō	.0		•00	.00	.00	.00		.00	•00		
TOTAL		30											
ITEM NUMBER 4					COEFFI	CIENTS	OF CORRE	LATION		мЕ	ANS		
OPTION	WT	N	P		PB+ST	PB.77	B≃ST	B+T7		S7	TT		
_	•	٥	•		•		,00	.00		.00	• 0 0		
0	0	_	.0 100.0	_	.00	•00	.00	.00	ė	10.37	68.77	7 - 4	
C 1	1	3.0 0	.0	U	•00	.00	.00	.00	•	.00	•00		
2 Total	U	30	• •		100		•••			•••	•••		
IOTAL		30				,							
ITEM NUMBER &					COEFFI	CLENTS	OF CORRE	LATION		ME	ANS		
OPTION	WY	N	P		P8-57	P8-77	8-sT	8-11		ST	17		
	_							. .				o 4	
. 0	0	0	•0	_	•00	•00	.00	•00	^	.00	•00	8 - 6	
C 1	1	30	100.0	C	•00	•08	.00	.00	U	10.37	68.77 •00		181
180 TOTAL	0	3 0	• 0		•00	.00	.60	.00		•00	•00		TOT
180 TOTAL		Ju											

•				•	•						
TEST NO 1	#CHIEVEMEN	T MONITORING	ĢV				SUBTE	S T 4	SUBTRA	CTION FACTS	•
ITEM NUMBER	6			COEFF	ICIENTS	OF CORRE	LATION		н	EANS	
0971	ON WT	4	P	P8 ≃ ST	P8-T7	8-57	8+11		57	TŢ	
	0 0	1 29 g	3.3	42	34	-1.01	83		7.00	\$2.00	
Ċ	1	29 9	6.7 (4 - 3
·	1 1 0	Ó	•0	-00	.00	.81 .00	-00	•	*****	.00	4 - 2
707	AL	30	••	•••		•••	•00		•00	• • • •	
ITEM NUMBER	7			COEFF	ICIENTS	OF CORRE	LATION		HE	ENS	
OPTI	0N #T	N	P	PB-ST	PB+TT	8-57	B-77		ST	T*	
	0 0	o	.0	-00	-00	.00	-00		- 00	-00	
	1			08	-06	.00	.11	c	10.24	40.04	
•	2 0		3.3	. 58	m.06	,19	14	•	11.00	44.00	11 - 2
707				•••	2,00	•••	-114		11.00	88.00	
ITEM NUMBER	4			COEFF	ICIENTS	OF CORRE	LATION		ME	ANS	
CPTI	ON WT	N	P	Paest	P8-77	8-57	8-77		S 7	77	
	0 0	11 3 17 5	6.7	79	~.3 \$	-1.01	45		8.82	64.55	
C	1 1	17 5	6.7 0	64	.39	1.06	.49	C	11.47	71.88	13 - 8
	ė 0	2	6.7	+.16	10	30	-,1B		9.50	65.50	
TOT	AL	30				-	, • -		•	•••	
ITEM NUMBER	•			COEFF	CIENTS	OF CORRE	LA"ION		ме	ANS	
0P7 I	05 WT	N	P	PB-\$1	P877	8,,\$7	8-17		ŞT	77	
	0 0	12 4	0.0	79	34	-1.00	44		8.92	64.92	
C	1 1	17 S	6.7 C	.75	.29	.95	.37	C	11.35	71.12	12 - 7
	5 0	1	3.3	.00	.13	.19	.31		11.00	75.00	
TOTA	AL	30			•						
17EH NUMBER	10			COEFFI	GIENTS	OF CORRE	LATION		МЕ	ANS	
09716	DN HT	N	P	P8-\$1	P8-11	8-57	8-77		ST	77	
	۸ ۵										
	0 0 1 1	18 44		-121	14	73 1.00	- 1 6 7	•	8.53	65.33	15 . 6
· ·	2 0	10 60).0	***46	-,51	1.00	- T#	U	11.32	73.00	15 - 9
7074	-	30	•••	***	•,51	-,65	73		9,00	24*2A	



TEST NO 1	ACHIEVEMENT	HOWITORING	94
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SURTEST 4	SUBTRACTION	FACTS
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ITEM NUMBER 11					COEFFI	CIENTS	OF CORRE	ATION		не	ANS	
OPTION	₩T	N	P		PB-\$7	P8+TT	8 - \$T	8-77		ST	**	
0 C 1 2 0	0 1 0	1 2 30	3.3 90.0 6.7	c	•.• 05 • 08 •• 07	*00 06 .07	-,11 ,13 -,13	.01 09	c	10.00 10.41 10.60	69.00 68.59 71.00	10 - 2
ITEM NUMBER 12					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
OPTIO4	ijТ	N	P		PB-ST	PB-TT	8-\$1	8-11		ST	77	
O C 1 2 Total	0 1 0	4 24 2 30	13.3 80.0 6.7	c	69 .£7 .02	33 .34 -,10	.=1.08 .80 .0\$	53 .49 18	С	7.75 10.79 10.50	61.00 70.33 65.50	16 - 7

CERTAP ESU					SALILIA	.K. 416	. 314120	100				
TEST NO 1 ACH!	I E V EMENT	MONITO	RING 9V					SUBTES	T 5	ADDIT	ON ALGORITHM	
ITEM NUMPER !					CCECE	CIENTS	OF CORRE	LATION		Mį	ANS	ITEM DESCRIPTIONS
atem Homeen ;					OULFF	OZENIS	OF COMME	•			,,	
OPTION	wT	N	P		P8=ST	P8-TT	8-ST	8+11		ŞT	TT	
0	0	0	•0		.00	.00	.00	.00		.00	.00	~~
Ci	1	28	93.3	C	.45	.33	.80	.58	C	19.00	69 . 5T	53 + <u>34</u>
ě	0	2	ô•T		45	-,33	88	64		11.00	51,50	+ 311
TOTAL		30										. 01
ITEM NUMBER ?					COEFFI	CIENTS	of Corre	LATION		ME	EANS	
OPTION	HT	N	P		P#+ST	P8+TT	a~sT	6+11		ST	TT	
		_										30
_ 0	0	0	•0	_	.00	.00	.00	+00	_	.00	•00	30 + <u>21</u>
Ci	1	59	96.T	C	+53	.16	1.02	.34	C	18,90	69.07	+ 21
TOTAL	0	30	3.3		53	-, 18	-1,28	-,43		6,00	60.00	
ITEM NUMBER 3					COEFFI	CIENTS	OF CORRE	LATION		#1	ANS	
_								_	A			
NO1140	WT	N	P			PB.TT	8+\$7	8_TT	Щ	ST	TŢ	+ <u>62</u>
0	0	٥	.0		.00	.00	.00	.00		.00	.00	4.72
C I	1	21	90.0	C	•34	* 5 0	,55	\$6.	C	18.96	69.37	T 62
5	0	3	10.0		-•34	50	 58	34		14.00	63.33	 -
TOTAL		30										
ITEM NUMBER "					COEFFI	CIENTS	OF CORRE	LATION		Hŧ	EANS	
OPTION	WT	N	P		P8+ST	P8-TT	8-ST	B-TT		ST	TT	
0	0	0	.0		.00	.00	.00	.00		.00	•00	503
Cί	ĭ	29	96 • T	c	.49	.35	,94	.62	C	18,86	69.31	+ 293
2	ò	1	3,3	•	49	-,32	-1+1T	18	•	T.00	53.00	T <u>2 15</u>
YOTAL	•	30	-,,		,	-,					*****	 _
		•										
ITEM NUMBER =					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
NOITHO	WT	N	P		P8-ST	P8_TT	B ₊ ST	B-TT		ST	TT	265 + <u>314</u>
0	0	0	.0		.00	.00	.00	•00		.00	. 0	+ 31L
c i	ì	27	90.0	С	.42	.24	.6T	.38	C	19.07	69.48	1 317
2	ō	- 3	10.0	•	-142	24	*.71	40	-	13.00	62.33	 -
TOTAL	•	30										
.0.45		7.										

TEST NO 1 ACM	: EVEMEN	T MONITO	RING 9V					SUBTE	ST 5	ADDITE	ON ALGORITH	H	_
ITEM NUMBER 6					COEFF	IC1ENTS	OF CORRE	LATION		, ME	ANS		136
OPTION	WT	N	ρ		P8-ST	P8-11	8-51	8-11		ST	TT		
0	0	0	.0		.00	.00	.00	.00		.00	•00		
C 1	1	29	96.T	C	.49	. 32	.94	.62	C	18.86	69.31	332	
Ż	0	1	3.3		49	-,32	#1.1T	· . TB		T.00	53.00		
TOTAL		30					****	• -				+ 246	
ITEM NUMBER 7					COEFFI	CIENTS	OF COARE	LATION		МЕ	ANS		
OPTION	HT	N	P		PB-\$T	P8-TT	8-51	8-11		ST -	≠ ††		
						,						7	
0	٥	0	0.	_	.00	•00	.00	.00		•00	.00	!	
S I	1	28 2	93.3 6.T	C	.03	.01	.05	.01	C	18.50	68.19	+ 56	
TOTAL	•	30	••1		03	01	05	→,02		18.00	68.50		
ITEM NUMBER P					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		
OPTION	WT	N	P		P8-\$T	PB⇒TT	B-ST	8 - 11		ST	TT		
0	٥	•			**	10	-1.28	- 49			40.00	+ <u>8</u>	
C 1	ĭ	1	3.3		-•53 •13	■.18		43	•	6.00	60.00 69.64	+ 8	
2	0	28 1	93.3 3.3	С	.13 49	.36	1.28 -1.17	.63 78	·	19.32 T.00	53.00	·	
TOTAL	•	30	313		-149	-,32	-1.1	-,,,		1400	53,00		
ITEM NUMBER 9					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		
OPTION	WT	N	P		PB=\$T	P8+TT	8-ST	B-TT		ST	TT	79	
٥	٥	1	3.3		→•53	18	-1.28	•.43		6.00	60.00	+_7	
Ci	ì	27	90.0	C	.31	→.02	•51	03	C	18.93	68.TO	· <u>/</u> -	
ž	ō	Ž	6.7	•	.00	.15	.00	.30	•	18.50	T4.00		
TOTAL		30				,							
ITEM NUMBER 10					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		
OPTION	WT	N	ρ		PB=ST	F-B+TT	B=ST	Bett		\$ T	TT	29	
ð	٥	1	3.3			16	-1.28			6.00	60.00		
c 1	ĭ	27	90.0	С	•.53	.41	.16	→,43 ,66	c	19.15	70.00	+ 64	
2	å	2	6.7	·	18	-,36	. ,35	→.69	•	15.50	56.50	-	4.00
TOTAL	•	30	941		-1.0	-134	-,50	-147		17154			183
70176		30											

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ITE	H	NUI	T
17E	M	ŅUI	T A

SUMMARY ITEM STATISTICS

TEST NO 1 A	CHIEVEME	IT HONITO	RING 9V					SUBTES	š T 5	ADDIT	ON ALGORITHM		
ITEM NUMBER 1	11				COEFFI	CIENTS	OF CORRE	LATION		м	EANS		
02110	N NT	N	P		P3#5T	P8+TT	8-ST	8 - TT		ST	ŤŤ		
	0 0	1	3,3		53	18	-1,28	43		6.00	60.00		
C	1 1	28	93.3	Ç	. 49	.13	.85	*55	Ç	19,04	69.07		11 ~
	è ō	1	3,3		15	• 0 0	₩.36	.01		15.00	69.00		45
TOTA	ıL	30	-		-							+	28
ITEM NUMBER 1	2				COEFFI	CIENTS	OF CORRE	LATION		не	EANS		•
OPTIC	TH H	н	ρ		P8-5T	PB-TT	8-ST	B-77		37	TT		
	a a	3	10.0		39	21	67	36		13.33	63:00		
С	1 1	18	60.0	Ç	• 40	.19	50	.24	c	19.89	70.17		77
•	ė ā	9	30.0	•	17	06	55	7.0B	•	17.33	67.89		
TOTA		30					•==	.,,			- 1 1 1 1	+	95
ITEM NUMBER 1	.3				COEFFICIENTS OF CORRELATION MEANS						ANS		
OPTIO	N WT	N	P		PB-ST	PB-TT	B=ST	B-TT		\$T	TT		
	a a	a	• 0		• 0 0	•00	• 0 0	.00		.00	.00		426
C		24	80.0	c	• 4T	.34	.67	,49	C	19.50	70.33		
•	è ō	6	50.0	•	47	34	w.67	49	•	14.33	62.50	+	458
TOTA		30						•					
ITEM NUMBER 1	4				COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		
0PT10	N WT	N	P		P8 ⇒ \$1.	PB-TT	B-ST	B-TT		\$ T	TT		239
	0 0	a	• 0		.00	• 60	• 0 0	.00		• 00	.00		
¢		53	76.1	c	. 63	•50	.87	,69	c	20.00	T1.30	+	653
•	5 9	7	23.3	•	63	50	- 88	7a	•	13,43	60.43		
TOTA	-	30	2313		4.00	-000		-•••		20,70			
ITEH NUMBER 1	5				COEFFI	CIENTS	OF CORRE	LATION		МЕ	ANS		
0PT10	N HT	N	P		P8-\$?	PB#TT	B#ST	B⊕TT		\$1	TT		115
	a a	q	.0		•00	•00	.00	. 0 0		.00	•00	+	875
C		24	80.0	Ç	.41	, 1 B	.59	. 25	C	19,3T	69.5B	•	~ ' ~
•	ž a	6	20.0		41	-,18	59	26		14,83	65.50		
TOTA	L	30											

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SUMMARY ITEM STATISTICS

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TEST NO 1 ACH	1 EVEMENT	MONITO	RING 9V					SUBTES	\$T 5	ADDIT	ION ALGORII	тни <i>@</i>
ITEM NUMBER 16					COEFFI	CLENTS	of CORRE	LATION		Hí	EANS	,
OPT1CN	wT	N	P		P6-\$1	PG-TT	8-\$1	B-TT		\$T	TT	
O	0	1	3.3		 I9	-,2 2	46	~. 53		14.00	58.00	· ·
C 1	1	26	86.7	C	.60	.40	. 92	.61	C	19.50	70.19	174
5	0	3	10.0		⊸.5 7	·· 32	97	₩.55		11.00	60.00	
JAT01		30										+ 642
ITEM NUMBER 17					COEFFI	CIENTS	OF CORRE	LATION		H	EANS	
0P710N	W7	N	P		₽8 -57	PB◆TT	B⇔ST	8-11		ST	TT	
0	0	1	3.3		19	22	-,46	53		14,00	58.00	500
Ci	i	26	86.7	C	.67	.36	1.02	.55	C	19,62	70.04	583
Ž	Ö	3	10.0	•	64	27	01.10	46	•	10.00	61.33	+ 241
TOTAL		30				•					0.1133	271
ITEM NUMBER 18					COEFFI	CIENTS	OF CORRE	LATION		ME	EANS	
007100	WT		_								_	•
OPTION	WI	N	P	•	68+21	PB-7T	8-\$1	8 - 11		ST	TT	
•	0											186
O C i	ĭ	1	3.3		19	55	46	·+ . 53	÷	14.00	56.00	•
2	ò	24 5	. 80.0	U	.59	+41	.63	,58	U	19.75	70.62	+ 570
TOTAL	v	30	16.7		54	33	60	-,49		13.50	62.00	
TOTAL		30										
ITEH NUMBER 19					COEFFI	CIENT\$	OF CORRE	LATION		ME	ANS	
OPTION	WT	Ņ	P		P8=ST	P8-TT	8-\$1	8±TT		\$T	TT	÷ 263
0	0	1	3.3		19	22	-,46	. 53		14.00	56.00	
C j	1	19	63.3	C	.76	.58	.97	.74	C	21.00	72.79	+ 459
ž	0	10	33.3	-	70	51	91	66		14.10	62.20	
TOTAL		30				,	•	, -		• • • • • • • • • • • • • • • • • • • •		
STEM NUMBER 20					COEFFI	CIENT\$	JF CORRE	LATION		ME	ANS	
OPT1 ON	WT	, N	P		P8+ 5 T	P8-TT	B-\$T	B ₊ TT		\$1	ΤŢ	359
											-	
0	0	5	16.7		-148	47	+.71	70		13.60	59.20	+ 265
C i	1	50	66.7	C	.60	.58	1.04	. 75	C	20.95	172.50	
\$ Q (7)	0	5	16.7		54	26	-,80	.0.39		13,20	63.40	
192 TOTAL		30										

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TEST NO 1	ACHIE	VEMENT	HONIYOR	ING 9V						SURTES	ST 5	APOIT	ION ALGORITH	н	
ITEM NUMBER	21					COEFFI	CIENTS	0F	CORRE	LATION		н	EANS		
OPT	100	₩T	N	p		PB-ST	P8-TT		B-\$T	B_TT		51	TT		
	0	0	6	20.0		+.45	36		-,65	52		14.50	62.17		767
	Cl	1	12	40.0	C	.67	.48		, B5	.60	Ç	22.08	74.08		
	ż	ŏ	12	40.0	•	30	18		-,39	23		16.63	66.75	+	434
10	TAL	·	30	,,,,,			•••		•-				•		
ITEM NUMBER	22					COEFFI	CIENTS	QF	CORRE	LATION		Mē	EANS		
OPT	1011	WT	N	P		PB-ST	PS-TT		8-57	B-T1		ST	TT		
	0	0	8	26.7		37	19		50	-,26		15.75	65.87		19
•	C 1	1	10	33.3	C	.52	.40		.68	.52	Ç	21.70	T3.90		-
	ž	0	12	40.0		16	21		21	27		17.58	66.42		64
70	TAL		30											+	<u>, 58</u>
ITEH NUMBER	23					COEFF	CIENTS	07	CORRE	LATION		ME	ANS	رخصه ۱۰	
•	_														
027	10N	WT	N	P		PB⇒ST	PB=TT		B-57	B⊲TT		\$T	TT		/ ~
	ŋ	0	12	40.0		35	24		44	30		16.50	66.08		67
	Ci	i	15		С	.53	.32		67	.40	С	20.80	71.67		25
	Ž	٥	3	10.0	•	31	14		54	24	-	14.33	65.00		2.0
TO:	TAL	·	30			****	- • • •							+	25 22
ITEM NUMBER	24					COEFF 1	CIENTS	٥F	CORRE	LATION		ME	ANS		
OPT	10N	WT	N	P		P8-57	P8#TT		8-\$T	8-77		\$7	77		58
			10	E A -		34	_ 49		_ 25	. K.		17.60	44.07		98
	0	0	15	50.0	^	→•20	43		25	5 4	^	17.60	64.87		
•	Ci	1	6	50.0	C	.42	.48		•60	.68	Ų	22.17	77.50	+	85
- 4	2	0	9	30.0		~.15	• 0 \$		20	.06		17.44	69.44	,	0
70	TAL		30												

LERTAP 2.0					SUMMA	MI IICM	STATIST	103				•	AGE
TEST NO 1 A	CHIEVENEN	OTINON T	NE DAIA					SUBTES	T 6	SUBTRA	CTION ALGO	tț +	
ITEM NUMBER	1				COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	ITEM DESCRIPTION	is
OPTIO	Tw n	N	P		P8-ST	P8⇔TT	8-51	8-11		ST	TT		
	0 0	0	.0		.00	.00	.00	.00		.00	.00	/=	
C		\$8	93.3	C	.24	.11	. 43	.19	Ç	13.75	69.04	67	
	5 0	5	6.7		24	11	47	. ≠•\$1		9.50	65.00	- 42	
ATOT	L.	30											
ITEM NUMBER	s				COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		
OPT10:	N WT	N	P		P8-5T	P8-TT	8-ST	B ₊ TT		ST	TŢ		
	0 0	ð	•0		.00	.00	.00	.00		.00	.00	56	
C		29	96.7	C	.58	,38	1.11	.74	C	13.93	69.41	36	
	s 0	1	3.3		58	-,38	-1.39	92		.00	50.00	- 25	
TOTA	L	30											
ITEM NUMBER	3				CGEFFI	CIENTS	OF CORRE	LATION		ME	AN\$		
0P710	N WT	N	Þ		P8-\$T	PB-TT	B-ST	8+TT		s T	TT		
	0 0	ð	•0		.00	.00	.00	.00		.00	.00	88	
c		29	96.7	C	.58	.38	1.11	.74	С	13,93	69.43	- 76	
	2 0	ĭ	3.3	•	58	38	-1.39	92	-	•00	50.00	10	
ATOT	L	30											
TTEM NUMBER	4				COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		
0PT10	N WT	N	P		P8-\$1	P8+TT	8-ST	8-TT		ST	TT		
	0 0	0	. 0		.00	•00	.00	.00		.00	•00	698	
c `	-	29	96.7	c	.58	.38	1.11	.74		13.93	69.41		
	5 0	ĩ	3.3	•	58	-,38	-1,39	- 92		,00	\$0.90	- <u>+57</u>	
TOTA		30											
ITEM NUMBER	5				COEFFI	CIENTS	OF CORRE	LATION		μE	ANS		
0PT10	4 NT	N	P		P6-ST	₽8≠TT	8-\$*	8-11		\$ T	TŸ	482	
							.00	. ^^		.00	.00		
c '	0 0 1 1	0 25	.0 83.3	c	.00	.00 .17	.25	•26	С	13.60	59.48	- 231	
	5. 0	5	16.7	-	-17		26	 26	-	11.80	15.20	district Spinster, or other	19
	Ľ,	30				-							-: /

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TEST NO 1 ACHIEVEMENT MONITORING 9V

SUBTEST 6 SUBTRACTION ALGORITHM

120 110 1												
ITEM NUMBER 6					COEFFI	CIENTS (OF CGRREI	ATION		ME	ANS	
OPTION	HT	N	P		P8-ST	≯8 -11	8-\$T	8-TT		ST	TT	
		o	•0		.00	.00	.00	.00		.00	.00	985
0	0	•	96.7	c	.58	.36	1.11	. T4	C	13.93	69.41	
Cl	1	59	3.3	·	- 458	-,38	-1.39	*.92		.00	50.00	- 265
2	0	1	3.3		50	-,50						
TOTAL		30										
ITEN NUMBER 7			•		COEFFI	CIENTS	OF CORRE	LAT 10N		ME	ANS	
ITEM NUMBER 7					••							•
OPTION	WT	N	P		P9-ST	PB-TT	9-57	B⇔TT		ST	TT	
							24	- 20		10.09	63.00	32
0	٥	1	3.3	_	15	12	36	28 .35	C	14.74	70.04	- _ 5
C 1	1	23		C	.53	.25	.73 71	+.31	•	9.17	64.83	<u> </u>
- 8	· 0	6	50.0		50	23		 31		,,,,		
TOTAL		30										
					CAFFF	CIENTS	OF CORRE	LATION		ME	ANS	
ITEM NUMBER 0					CORFF	, 0.000						
NOITAO	WT	N	P		P8-57	PB_TT	8-51	8-11		ST	TT	74
			•		.00	.00	.00	.00		.00	• 00	- 8
0	0	0	0.0	£	.73	.66	1.03	-	C	15.04	71.79	<u> </u>
C 1	1	24	80.0	·	T3	66	1.04	95		T.17	56.0°	
5	0	6	20.0		**13	05		- • • •		•		
TOTAL		30										
					COEFF	ICIENT\$	OF CORRE	LATION		ме	ANS	
ITEM NUMBER 0												7.1
OPTION	WT	N	P		P8-ST	PB-TT	B=ST	B=77		\$T	ŢΤ	6]
		0	.0		.00	.00	.00	.00		.00	.00	<u> - 5</u>
0	0	26	86.T	£	,43	.17	.65	.26	C	14,19	69.38	
C 1	1	#	13.3	•	43	#.1T	67	₩.27		8.15	64.75	
2	0	20	*31.5		~.,,		-					
TOTAL		20				•						
ITEM NUMBER 14					COEFF	ICIENTS	OF CORRI	ELATION		М	EANS	
TIEN NOUDEN TH								,		ST	TT	
OPTION	WT	N	P		PB+ST	PB-TT	8#\$T	B ⇔TT		31	••	72
	•	0	.0		.00	.00	.00	.00		.00	.00	- 28
0	0	26	86 . T	£	.49		. 16	85.	C	14.31	69.42	
C 1	1	4	13.3	•	49		_,T6	·* · 29		8.00	64.50	
2	v	30			-	• •						
TOTAL		34										

LERTAP 2.0					SUMM	MATI AM	STATIST	108					PAGE	39
TEST NO 1 ACF	(IEAEHEN.	T MONTTO	RING 9V					SUBTES	3T 6	SUBTRA	ACTION ALGORIT	нм		
ITEM NUMBER 11					COEFFI	CIENTS (F CORRE	LATION		M	EANS			
OPTION	WT	Ħ	P		/ PB#ST	P8+TT	6-ST	8-11		ST	TT			
0	٥	0	.0		.00	.00	.00	.00		.00	.00	-		
Ct	1	\$5	T3.3	С	, 39	,24	,53	, 32	C	14.50	T0.09	83		
2	ō	6	26.T	-	39	-,24	-,53	*.32	-	10,62	65.12	- 67		
TOTAL	•	30			•	•-	•			•		- 61	•	
ITEM NUMBER 12					COEFFI	CIENTS C	F CORRE	LATION		Wi	EANS			
OPTICN	WT		P			₽8⊕TT	B-ST	- 8#TT		ST	TT			
							-					05		
0	0	1	3.3	_	19	-,2 8	-,46	68	_	9.00	55.00	85		
Cl	1	\$5	13.3	C	• 65	.41	.83	,56	C	15.09	71.05	- <u>59</u>		
2 Total	0	30	23.3		 51	+,3I	-, 18	43		9.00	63.5T	<u> </u>		
ITEH NUMBER 13					COEFFI	CIENTS O	F CORRE	LATION		_ ма	EANS			
OPTION	WT		•											
061108	#1	N	P			P8-TT	8 - \$T	Ð#TT		ST	11			
0	0	•	13.3		. .25	~, 32	3 9	51		10.TS		256		
C 1	1	18	60.0	C	.65	, T4	.83	.94	C	15.78	14.28			
Z Total	0	8 30	26.1		53	₩,ST	+,72	17		9.62	60.12	- 138	•	
								. 						
ITEM NUMBER 14					COEFFI	CIENTS 0	F CORNE	LATION		ME	C/AX			
OPTION	WT	N	P		₽8 =\$T	PB-TT	6 - 5T	B#T Y		ST	ተን	200		
٥	0	5	16.T		25	30	-,38	·w . 45		11.00	62.60	388		
Ci	i	16	53.3	C	.67	,65	.84	.82	С	16.19	74.31	- 269		
5	ō	ğ	30.0	•	52	46	-,69	61	•	10.00	62.33			
TOTAL		30												
ITEM NUMBER 18					OGEFFI	CIENTS O	F CORRE	LATION		ME	ANS		,	
OPTION	NT	N	P		PB-ST	P8•	8-\$T	B-TT		\$ T	TT	913		
_		_			***		_ 4-	_ =.		44 4-	4	• • •		0.5
	0	7	53.3	_	30	*,43	-,41	59		11.14	61.T1	- 408		20.
j.) ° 1	1	14	46 . T	C	.65	.68 35	56	. 56 46	Ü	16.50 10.56	75.43 63.89		-	
2 Total	V	30	30.0		-0177	0143	-, 20	70		1 A 1 3 D	03107			
IOIAL		34												

ERIC Truit front Provided by ERIC

TEST' NO 1 ACH	1E VEMEN1	HONITO	Ve' 0NI					s	SUBTES	T 6	SUBTRA	CTION ALG	ORITHM	
ITEM NUMBER 16					COEFF !	CIENTS	OF CO	RRELA	ATION		МЕ	ANS		
OPTION	ΨT	N	P		PB-ST	PB⇒TT	8-	ST	B⇔TŢ		ST	TT		
٨	0	В	26.7		26	33		34	45		11.62	63.75		.
Ci	1	12	40.0	C	.74	.70		94	.89	С	17,42	T6.58		846
ž	Ō	10	33.3	-	53	- 42		69	54	_	10.20	63.40		30.0
TOTAL		30				•							_	393
ITEM NUMBER 17					COEFF	I CI ENTS	OF CO	RRELA	ATION		ME	ANS		
OPTION	WT	N	P		PB-ST	P8-TT	8=	5 T	B=TT		ST	TT		
								~7				64.70		000
O C l	0 1	10 9	33.3		21	~.32		90	41 .77	^	12.20 18.00	T6.89		929
2	0	11	30.0 36.7	U	45	.58 25			31	v	10.91	65.82		743
TOTAL	U	30	30.7			-147	•	,,	31		10.71	43165		<u> </u>
July		30			~									
ITEM NUMBER 18					COEFFI	CIENTS	OF CO	RRELA	NCITA		не	ANS	•	
OPTION	WT	N	P		PB#ST	P8-11	8.	ST	B+TT		ST	TT		701
0	0	14	46.7		33	28		43	-,36		11.93	66.00		726
Ci	i	9	30.0		.68	.61		90	-130	•	10.00	77.22	-	186
2	٥	7	23.3	•	35	32			w.45	•	10.71	63,43		100
TOTAL	·	30	2313			-136		., •	-145		10071	00,40		
IYEM NUMBER 19					COEFFI	CIENTS	of co	RREL A	TION		ME	ANS		
OPT1 N	W7	N	P		PB-ST	P8+TT	8-	ST	8-77		ST	TT		
		. •				4.6	- •	4.2	_ 45			64.82		623
0	0	17	56.7	_	4.53	-,49		72	62	•	11.47	78.15		
Cl	1	4	13.3	C	.45	.43		30	.68	U	18.50 15.00	71.19	***	334
? Total	U	30	30.0		.23	.55	•	30	.28		15.00	(8.10		
IOTAL		30												
TEM NUMBER 24					COEFF	CIENTS	0F C0	RRELA	TION		NE	ANS		
OPTION	WT	N	P		P8-S1	P8-7T	B#:	\$ 1	8-77		51	TŢ		872
0	o	19	63.3		40	32		5 1	40		12,16	66.58		
Ci	ĭ	5	16.7	c	+53	.51		79	.76	c	18.60	19.20		586
2	ò	6	20.0	•	02	10	4.	02	14	•	13.33	6T .00		
TOTAL	•	30			-104	- 110			7 4 7					
10146														



TEST NO 1 ACH	IEVÆMENT	MONITOR	RING 9V					SUBTES	it 6	SV8TRA	CTION ALOORITH	4
ITEM NUMBER 21					COEFFI	ClENTS 0	F CORRE	LATION		МЕ	ANS	
OPTION	HT	N	P		P0=\$T	P8+TT	8-\$1	BeTT		\$T	TT	
0	0	55	73.3		20	-,12	-,26	16		12,95	68.09	436
C 1	1	5	6.7	C	. 31	. 29	.60	.55	C	18.50	78,50	-
ž	ò	6	20.0		.02	04	.03	06		13.67	68.00	- 337
YOTAL		30	•									
TEM NUMBER 22					COEFFI	CIENTS O	F CORRE	LATION		ME	ANS	
OPT ION	WT	N	P		P8+\$T	P8-TT	B-\$T	8-11		\$T	TT	
6	0	21	70.0		26	18	3 5	23		12.71	67.71	
Ci	ì	ij	10.0	C	.42	40	,73	. 68	C	19.00	79.67	730
ž	ō	6	50 0		02	10	02	14		13.33	67.00	1120
TOTAL	_	30										- <u>438</u> ·
ITEM NUMBER 23					COEFFI	CIENTS O	F CORRE	LATION		Mē	ANS .	
OPT I ON	WT	N	P		P8-S1	PB-TT	8-\$1	8-11		\$T	TT .	
0	0	23	76.7		14	05	19	*•07		13.13	68.52	504
Ci	ĩ	Ö	.0	C	.00	.00	.00	.00	C	.00	•00	
ż	Ó	7	23.3		.14	.05	.19	• 07		14.57	69.87	- 227
TOTAL	-	30										
ITEM NUMBER 24					COEFFI	CIENTS O	F CORRE	LATION		М	ANS	
OPTION:	WT	N	P		PB-ST	P8±TT	B=ST	8+17		\$T	TT	600
0	0	55	73.3		21	11	-,29	14		12.91	68.18	
ÇÎ	i	0	•0	C	•00	.00	.00	• 00	C	.00	•00	- 481
ž	ŏ	8	26.7		.21	.11	.29	. 14		15.00	70.37	

LESTAN 2.0

SUMMARY ITEM STATISTICS

PAGE 16

TEST NO 1 ACH!	EVEMENT	MONITO	HING BK					SUBTES	7 1	OBJECT	IVES TES	Ţ
ITEM NUMBER 1					CGEFFI	CIENTS	OF CORRE	MOITA.		ME	ANS	ITEM DESCRIPTIONS
OPTION	νТ	N	P		P8-5T	PdaTT	B#ST	8-11		ST	TT	
1	0	0	.0		.00	.00	.00	.00		.00	.00	
	ŏ	ŏ	.0		.00	•00	.00	.00		.00	.00	Numerouances
?	1	29	100.0	c	.00	.00	.00	.00	¢	11.55	66.00	Writes 0-99
C 3	Ô	Ē,	•0	•	.00	.00	.00	.00		.00	.00	
TOTAL	•	29			• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •						
ITEM NUMBER >					COEFFI	CIENTS	OF CORRE	ATION		мЕ	ZNS	
OPT1684	WT	N	P		PB-ST	PB-TT	B-ST	B-TT		ST	TT	·
		. 7		С	.57	.27	1.00	. 48	Ç	11.78	66.70	•
C 1	1	27	93.1	•	•00	.00	.00	.00		.00	.00	Numerousness
2	0	0	.0		33	16	-,19	38		9.00	58.00	Represents 0-99
3	0	1	3.4 3.4		46	22	-1.11	*,53		8.00	55.00	
TATEL	U	29	314		-,,,	•••	2000					
10126												•
ITEM NUMBER 3					COEFFI	CIENTS	OF CORRE				ANS	
OPTION	WT	N	P		PB-ST	PB-TT	B-ST	B-TT		ST	77	
1	0	0	.0		.00	.00	.00	.00		.00	• 0 0	
ž	ŏ	Ŏ	.0		.00	.00	.00	.00		.00	•00	Problem Solving (A)
C 3	ì	29	100.0	Ç	.00	.00	.00		C	11.55	66.00	Add-part part whole 11-15
ž	Ď	Ö	• 0		.00	.00	.00	.00		.00	.00	
TOTAL	-	29										
ITEM NUMBER 4					COEFF	CIENTS	OF CORRE	LAT ION			EANS	
OPTION	WT	N	P		P8=ST	PB-TT	B-ST	B-TY		ST Š	TT	
•	G	5	17.2		42	18	63	*.27		10.20	62.20	
1 C 2	ì	19	65.5	С	.63	.37	.81	.48	C	12.21	68.53	Problem Solving (A)
¢ 2	ò	i	3.4	-	.06	50	.14	-1.20		12.00	41.00	Subt-simple separating 0-99
3	Ö	4	13.8		43	04	-,67	OT		10.00	65.00	· · · · · · ·

14:

ITEM NUMBER 115				COEFF	ICIENTS	OF CORRE	L4710N		не	ANS	
OPTION	WT	N	P	P8-\$1	PB-TT	8-57	8-11		\$1	TT	
1	0	0	• 0	•00	.00	.00	.00		,00	•00	
5	0	0	, 0	• • • •	.00	,00	.00	_	•00	•00	Problem Solving (B)
CЭ	1	29	100.0	C . 00	.00	.00	.00	C	11.55	66.00	Add-simple joining 1:-15
4	0	0	.0	•00	.00	.00	.00		•00	.00	
TOTAL		29									
ITEM NUMBER 186				COEFF	ICIENTS	OF CORRE	LATION		ME	ANS	
POITAO	WT	N	P	P8-51	PB-TT	B-ST	8∺11		ST	TT	
C 1	1	20	69,0	C .61	.23	.80	.30	c	12.15	61.45	0.11 0.1.1 (0.1)
ž	0	4	13.8	22	17	-, 35	27		10.75	62.00	Problem Solving (B)
3	0	5	6.9	~.29	.03	~. 56	.06		10.00	67.00	Subt-part part whole-addend
4	Ō	3	10.3	7.44		75	31		9.67	61.00	0-99
TOTAL	-	29		• •			/		• - •	-	

SUMMARY ITEM STATISTICS LEATAP 2.0 OBJECTIVES TEST SUBTEST 1 TEST NO 1 ACHIEVEMENT MONITORING 9W 87 COEFFICIENTS OF CORRELATION MEANS ITEM NUMBER TT B-ST B-TT \$7 OPTION P8-ST P8+TT 11.55 C 1 66.00 .00 .00 29 100.0 .00 .00 Order. Place Value .00 .00 .00 S .0 .00 .00 .00 Ordering 0-99 .00 .00 .00 .00 3 .0 .00 .00 .00 .00 .00 .0 .00 .00 .00 0 TOTAL 29 COEFFICIENTS OF CORRELATION MEANS ITEM NUMBER PB-ST PB-TT Batt ST TT OPTION B.ST 208 68.50 -.28 .19 11.00 20.T .14 1 Order, Place Value Place Value 0-99 65.07 51.7 --.01 -.10 -.02 -.13 11.53 5 13.00 70.33 .57 Ç C 3 .34 . 26 10.3 C .16 63.20 -.07 -.20 11.40 17.2 . 29

1

TOTAL

PA0E 17

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			- 4						Í		*	
					Circ #4	Ett with	of Guntle	LAIIUN		MŁ	.AN5	
0PT10N	WT	Ň	'ρ		PB-ST	P8+11	B-ST	8+11		\$T	TT	•
1 C 2 3 Total	0 1 0 0	4 25 0 0 29	13.8 86.2 .0	c	43 -43 -00 -00	16 .16 .00	•.67 .65 .00	*•25 •24 •00 •00	c,	10.00 11.80 .00	62.25 66.60 .00	Sentence Writing (A) Sunt-comparison 11-15
ITEH NUMBER - 10					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
GPT[ON	WT	N	P		P8-51	P8-TT	8-57	8-11		ST	77	
1 2 C 3 4 Total	0 1 0	0 1 28 0 29	.0 3.4 96.6	С	.00 46 .46	.00 .55 .55	.00 -1.11 .89 .00	.00 2 5 00	c	.03 5.66 11.66	•00 55•00 66•39 •00	Sentence Writing (A) Add-part part whole 0-99

LERTAP 2.0 PAGE 18 SUMMARY ITEM STATISTICS TEST NO 1 ACHIEVEMENT MONITORING 9W SUBTEST 1 OBJECTIVES TEST ITEM NUMBER COEFFICIENTS OF CORRELATION MEANS OPTION B-ST P8-ST P8-TT 8-11 ST TT +0 .00 .00 .00 .00 .00 +00 5 .0 .00 +00 .00 .00 .00 .00 Sentence Writing (B) СЗ 59 100.0 .00 C 11,55 66.00 +00 .00 +00 Add-simple joining 11-15 0 .00 +0 +00 .00 .00 +00 .00 TOTAL 29 ITEM NUMBER 1012 MEANS COEFFICIENTS OF CORRELATION OPTION WT N B+TT ST TT P8+ST P8+TT B-ST 10+3 64,33 -+13 -.06 -.55 -.10 11.00 210 CS 18 65+1 C +39 C 12,00 61,28 .17 .50 +55 Sentence Writing (B) -.15 3 13.8 -.08 -.13 11.00 64.00 Subt-join-addend 0-99 3 -.51 .,35 211 10.3 --.10 -.16 10.67 63,33 OTHER 3.4 -.04 10.00 64.00 TOTAL 29

TEST NO 1 ACHI	EVEMEN	T MONITOR	RING 9W					SUBTES	T 1	0BJECT	IVES TEST	
ITEM NUMBER 13		•			COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
0PT 10V	WT	N	P		P8-ST	P8-TT	B⇔ST	8-11		51	TT	
1	0	1	3.4		20	14	-,48	-,34		10.00	59.00	
C 5	1	59	96.6	C	.20	.14	.39	.21	С	11.61	66,25	Algorithms
3	0	0	.0		.00	.00	.00	.00		.00	•00	Addition Algorithm
4	0	0	.0		.00	.00	.00	.00		.00	.00	Modreton Argoritana
TOTAL		5.9										
ITEM NUMBER 14					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
GPTION	WT	N	P		P8-ST	P8-TT	B ~ \$T	8-11		ST	TT	
C 1	1	55	75.9	C	•38	.18	,52	.24	С	11.86	66.95	
5	0	5	17.2		17	04	-,26	06		11.00	65.20	Algorithms
3	0	1	3.4		++07	12	17	29		11.00	60.00	Subtraction Algorithm
4	Ó	ì	3.4		**46	22		53		8.00	\$5.00	
TOTAL		29				• -						

LERTAP 2.0

SUMMARY ITEM STATISTICS

TEST NO ; ACH!	EVEMENT	MONITO	RINO 9W				•	SUBTES	ST 2	SENTE	NCE WRITING	FREE RESPONSE
ITEM NUMBER 1					COEFF	CIENTS	OF CORRE	LATION		м	EANS	ITEM DESCRIPTIONS
OPTION	۲H	N	P		PB-ST	P8-17	B-\$1	8-11		ST	TT	
C 1 2 Total	0 1 0	2° 0 29	.0 100.4 .5	τ	•00 •00	•00 •00 •00	•00 •00 •00	•00 •00 •00	С	•00 3.62 •00	.00 66.00 .00	Sentence Writing Subt-simple seParating 11-15
ITEM NUMBER P					COEFFI	CIENTS	OF CORRE	LATION		МЕ	EANS	
OPTION	wT	N	P		PB-ST	P8+TT	8-51	B ≠ TT		ST	TŤ	
0 C ! R Total	0 1 0	0 23 6 29	.0 79.3 20.7	С	.00 .92 92	.00 .28 28	.00 1.29 -1.30	.00 .39 40	C	.00 3.96 2.33	.00 67.35 60.83	Sentence Writing Subt-comparison 0-99
ITEM NUMBER 3					COEFFI	CIENTS	OF CORRE	LATION		н	EANS	
OPTION	k T	N	Þ		PB+ST	PB _# TT	8#ST	8-11		ST	TT	
C 1 2 Total	0 1 0	0 29 0 29	100.0 .0	С	•00 •00 •00	•00 •00	•00 •00 •00	•00 •00	c	.00 3.62 .00	.00 66.00 .00	Sentence Writing Add-simple joining 0-99
ITEH NUMBER 4					COEFFI	CIENTS	OF CORRE	LATION		мЕ	ANS	
OPTION	WT	N	P		PB=ST	PB-TT	8-51	8+11		ST	TT	
0 C 1 2 Total	0 1 0	0, 24 5 29	.0 82.8 17.2	С	•00 •91 ••91	.00 .08 08	.00 1.32 -1.34	.00 .11 ~.11	c	.00 3.92 2.20	.00 66.33 64.40	Sentence Writing Subt-part part whole-addend 11-15

LERTAP 2.0					SUMMUS	IRY TTEM	STATIST	ics					PAGE	23	
TEST NO 1 ACH	I E V E M E N T	MONITO	PING 9W		00000				iT 3	ADOIT	ON FACTS				j
ITEM NUMBER 1					COFFE	CIFATS	OF CORRE	LATION		Me	: ANS	ITEM DESCRIPTIONS	S		150
OPTION	WT	ĸ	P		PB-ST	PB-TT	B.ST	B-TT		ST	TT				
0	0	1	3.4		09	12	20	-,29		11.00	60.00				
C 1	1	21	93.1	C	.50	.25	.88	. 43	С	11.63	66.63	2 + 4			
5	0	1	3.4		61	58	-1.4T	53		8.00	55.00	-			
TOTAL		39													
ITEM NUMBER 2					COEFFI	CIENTS	OF CORRE	LATI ON		МЕ	ANS				
OPTION	NT	N					B=ST	B=TT			T۲				
VFIIUN	# I	i N	P		PD=31	P8.TT	D#31	P+II		ST	• • •				
0	0	0	.0		•00	•00	.00	.00		.00	•00				
C 1	1	29	100.0	C	.00	•00	.00	.00	С	11.4B	66.00	6 + 3			
5	0	0	.0		• 00	.00	.00	•00		.00	•00				
TOTAL		59													
ITEM NUMBER 5					COEFFI	CIENTS	OF CORRE	LATION		МЕ	ANS				
OPT ION	нŤ	N	P		P8-ST	PB+TT	8-ST	B .TT		ST	TT				
	•									_					
	0	0	.0		.00	•00	•00	•00	_	.00	•00				
Ci	1	29	100.)	C	•00	•00	•00	•00	С	11.4B	66.00	5 + 2			
2074.	0	0 29	•0		•00	•00	.00	.00		•00	•00				•
TOTAL		29													
ITEM NUMBER 4					COEFFI	CIENTS	OF CORRE	LATION		ме	ANS				
OPTICN	WT	N	P		PB-ST	PB-TT	B⇔ST	8-17		ST	TT				
0	٥	0	.0		.00	•00	.00	.00		.00	.00				
Ci	ĭ	29	100.0	C	•00	•00	.00	•00	С	11.48	66.00	2 + 3			
5	ŏ	0	.0	-	.00	.00	.00	.00		.00	.00				
TOTAL		29													
ITEM NUMBER .					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS				
OPTION	NT	N	P		PB-ST	PB=TT	B=ST	B⇒TT		ST	ΤŤ				
č 4 +3 -		_					` ^^	,						, a	* *1
213	0	0 29	100.0	С	•00	•00	.00	•00	С	.00	.00 66.00			21	[/
	1	5.2	100.0	·	•00	•00	•00	•00 •00	·	11,48 •00	•00	5 + 0			_
TOTAL	v	29	***			•00	,	,		***	•••	•			
, , , , ,															

TZSY NO 1	ACHIEVEMEN	CTIAON T	RING 9W		(SUBTES	ST 3	ADDITI	ON FACTS	
ITEM NUMBER	e				COEFFI	CIENTS	of CORRE	LATION		HE	ANS	
1740	T# KO	N	P		P8-\$T	PB-TT	8-51	8-11		ST	Ŧτ	
	0 0	0	. 0		.00	.00	.00	.00		.00	•00	
C	1 1	22	100.0	C	.00	.00	.00	.00	C	11.4B	66.00	1 + 3
	5 0	0	• 0		• 00	.00	.00	.00		.00	•00	
TOT	AL	29										
ITEM NUMBER	7				COEFFI	GIENTS	OF CORRE	LATION		МЕ	ANS	
097:	DN WT	М	P		P8-\$T	P8-TT	8-57	8-11		ST	TT	
	o 0	O	• 0		.00	.00	.00	.00		.00	.00	
С	1 1	29	100.0	C	•00	.00	.00	.00	С	11.46	66.00	9 + 2
	2 0	0	• 0		•00	.00	.00	.00		•00	.00	
TOT	AL	29					-					
ITEM NUMBER	P				COEFFI	CIENTS	OF CORPE	LATION		ME	ANS	
0971	7 N T	N	P		PB-ST	PB-TT	8-57	8-77		ST	TT	
	0 0	0	.0		.00	.00	.00	.00		.00	.00	
Ć	1 1	29	100.0	C	.00	.00	.00	.00	C	11.48	66.00	
	2 0	0	.0		.00	.00	.00	.00		.00	.00	6 ÷ 6
TOT	AL	29										
ITEM NUMBER	9				COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
· OPT1	ON WT	N	Þ		P8-ST	PB-TT	8+ST	8+17		ST	TT	
	0 0	1	3.4		÷.61	50	-1.47	-1.20		8.00	41.00	
C	1 1	28	96.5	C	.61	.50	1.18	.96	C	11.61	66.89	4 + 7
	5 0	0	. 0		.00	.00	.00	.00		.00	.00	
TOT	4 L	29										
ITEM NUMBER	l a				COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
1140	TH NO	N	Þ		PB≈ST	PB-TT	B-ST	B ∓ TT		ST	TT	
	. 0	4	13.B		B3	47	-1.31	73		9.25	55.00	
` , c	1 1	25	86.2	C	.83	47	1.27	.71	c·	11.84	47.76	7 + 6
. •	2 0	ō	.0	-	.00	.00	.00	.00		.00	.00	
, TOTA		29						_				



PAGE 25

LERTAP 2.0		SUMMARY ITEM STATISTICS	
TEST NO 1	ACHIEVEHENT MONITORING 9W	FUBTEST 3	ADDITION FACTS

ITEM NUMBER 11					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
OPTION	WŢ	N	P		P8+ST	P3-TT	B#ST	B≖TT		ST	TT	
TOTAL 2	0 1 0	2 24 3 29	6.9 82.8 10.3	¢	+:89 :T2 +:15	52 .16 .20	-1.69 1.04 +.26	99 .21 .35	С	8.00 11.83 11.00	48.00 66.79 71.67	9 + 7
ITEM NUMBER 12					COEFFI	ÇIENTS	OF CORRE	LATION		ME	ANS	
. OPT10N	WT	N	P		P8+ST	FB-TT	Bust	8-11		ST	TT	
0 C 1 2 Toyal	0 1 0	2 26 1 29	6.9 69.1 3.4	Ç	89 .89 26	52 .53 16	=1.69 1.44 =,63	*.99 .85 *.38	c	8.00 11.81 10.00	48.00 67.69 58.00	6 + 4

TEST NO 1	ACHI	EVEMENT	MONITO	RING 9W					SVeTZS	ST 4	SUBTRA	CTION FAC	15
ITEM NUMBER	2 1					COEFFI	CIENTS	OF CORRE	LATION		Mε	ANS	ITEM DESCRIPTIONS
10	PTION	WT	И	ρ		P8+\$T	PB-TT	B⇔ST	B-TT		ST	TT	, -
	0	0	0	.0		.00	.00	.00	.00		.00	.00	
	C 1	1	29	100.0	Ç	.00	.00	.00	.00	C	9.91	66.00	3 - 2
	5	0	0	.0		.00	.00	.00	.00		.00	.00	•
1	TOTAL		59										
ITEM NUMBER	ج ۶					COEFFI	CIENTS	OF CORRE	LATION		Mε	ANS	
06	PTION	WT	N	ρ		P8-ST	PO-TT	B⇔ST	8.77		ST	TT	
	0	0	1	3.4		*•5 T	w.50	-1.35	-1.20		4.00	41.00	
	Ci	1	28	96.6	C	.51	.50	1.09	.96	C	10.18	66.B9	6 - 4
	į	Õ	0	.0		.00	.00	.00	.00		.00	.00	
1	TOTAL		29	-							-		
ITEM NUMBER	₹ 3					COEFFI	CIENTS	OF CORRE	LATION		με	ANS	
06	PTION	WT	f ‡	ρ		PB-ST	PB=TT	B-ST	8-11		ST	TT	
	0	ð	0	.0		.00	.00	.00	.00		.00	.00	
	Ci	1	29	100.0	C	.00	,00	.00	.00	C	9.9T	66.00	9 - 1
	5	0	0	.0		.00	.00	.00	.00		.00	.00	
1	TOTAL		29										
ITEM NUMBER	٠ 4					COEFFI	CIENTS	OF CORRE	LATION		Mε	ANS	
of	PTION	WT	N	P		PB-ST	PB+TT	B-ST	0-TT		ST	TT	
	0	0	0	.0		.00	.00	.00	.00		.00	.00	
	Ci	1	29	100.0	C	.00	.00	.00	.00	C	9.91	66.00	7 - 3
	5	0	0	.0		.00	.00	.00	.00		.00	.00	
. 1	TOTAL		29				`						
ITEM NUMBER	}					COEFFI	CIENTS	OF CORRE	LATION		Mε	ANS	
OF	PTION	WT	N	P		PB=ST	P8_TT	B#ST	8-TT		ST	TŢ	
	0	0	0	.0		.00	.00	.00	.00		.00	.00	
	Ci	i	29		C	.00	.00	.00	.00	C	9.9T	66.00	6 ~ 1
	ž	ō	ō	.0	-	.00	.00	.00	.00		.00	.00	
	OTAL		29										



SUBTEST 4 SUBTRACTION FACTS

TEST NO 1 ACH!	FAFWENI	HONTION	1110 34									
ITEM NUMBER 6					COEFFI	CIENTS	OF CORREL	ATION.		HE.	ANS	
OPTION	WY	N	P		P8-ST	P8+TT	8-ST	8+TT		ST	TT	
0	٥	3	10.3		45	36	76	61		7,33		
Ci	ĭ	25	86.2	C	.50	.35	.75	.53	Ç	10.36		7 - 5
2	Ď	1	3.4	•	19	06	45	1 4		8.00	63.00	
TOTAL	•	29	5.1			•						
											4.15	
TEM NUMBER 7					COEFF1	CIENTS	OF CORRE	LATION		34	•	
OPTION	WT	N	P		P8-ST	P9-TT	B⇔ST	B⊕TT		\$T	TT	
	0	2	6.9		61	39	-1.17	74			52.50	
C 1	ĭ	2T	93.1	C	.61	.39	1.06	.68	C	10.30	67.00	10 - 4
2	٥	0	.0	•	.00	.00	.00	.00		•00	• 0 0	
TOTAL	•	29	•••			-						
ITEK NUMBER - A					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
			_			•	8-ST			\$ T	TT	
OPTION	WT	N	P		P0-31	PDail						
ð	٥	6	20.7		68	+,42		60		7.33		
C i	1	21	72.4	C	.65	.53	.86	•71	C	10.76	69.10	13 - 9
į	0	2	6.9		⊷. 06	*,26	12	~•50		9.50	\$7.00	
TOTAL		29										
ITEM NUMBER 4					COEFFI	LC1ENTS	OF CORRE	LAT10N			ANS	
OPT 10N	¥T	N	P		PB=ST	P8⊷TT	8⊷\$1	8-11		ST	TT	
0	o	10	34.5		··· 53	•.12	69	16		8.50	64.40	
C 1	1	17	58.6	C	.62	.27	.78	. 35	C	11.00	66.18	14 - 8
2	ò	ě	6.9		20		-,36	-,50		8.50	55.50	
TOTAL	•	29				•						
					00555	, 61 9 NT\$	OF CORRE	LATION		M	EANS	
ITEM NUMBER 15											TT	
OPT10N	WT	N	P		P9 - ST	P8+TT	g⇒ST	B⇔TŤ		31		
٠ ,	0	10	34.5		·# • 57	-,21	74	-,27		8.40	63.30	
) i	ĭ	16	55.2		,65		,61	, 45		11,12	69.06	11 - 7
24	ō	3	10.3		16			45		9,00	56.67	
TOTAL	-	29										
10186												



THEM NUMBER 11 COEFFICIENTS OF CORRELATION MEANS OPTION MT N P PO-ST PO-TT B-ST S-TT ST TT	
OPTION WT N P PO-ST PO-TT B-ST 8-TT ST TT	
0 0 7 24.168429357 7.57 59.00	
C 1 1 20 69.0 C .62 .31 .82 .40 C 10.80 67.95	12 - 4
2 0 2 6.9 .00 .14 .01 .28 10.00 71.00	
10146 59	
ITEM NUMBER 12 COEFFICIENTS OF CORRELATION HEANS	
0PT:3N W7 N P P0-ST P8-TT 8-ST 8-TT ST TT	
0 0 8 27.669369248 7.75 60.50	
C 1 1 19 65.5 C .75 .25 .97 .33 C 11.05 67.76	17 0
2 0 2 6.920 .1638 .30 8.50 71.50	17 - 9
TOTAL 29	

SUBTEST 5 ADDITION ALGORITHM

TEST NO 1 ACHI	EVEMENT	MONITO	KIND AM					305,53		APD	,		
ITEM NUMBER 1					COEFFI	CIENTS	OF CORRE	LATION		HE	ANS	ITEM DESCRIPTIONS	
OPTION	NT	N	ρ		P8-\$T	P8-TT	8-ST	8.,11		\$T	TT		
Q	0	0	.0		•00	•00	.00	.00		.00	.00	51	
C 1	ĭ	29	100.0	c	.00	.00	.00	.00	C	17.59	66.00	. 21	
2	ò	0	•0	•	.00	.00	.00	.00		.00	•00	+ 27	
TOTAL	·	59	••		•••	•••	•	•					
ITEM NUMBER >					COEFFI	CIENTS	OF CORRE	LATION		HE	ANS		
OPTION	NT	N	ρ			PB-TT	8-\$1	8-11		ST	TT		
0		•	_									40	
Ó	0	0	.0		.00	.00	.00	.00	_	00	•00	-	
c i	i	29	100.0	C	.00	.00	.00	•00	C	17.59	66.00	+ 48	
2	Ò	0	• 0		.00	.00	.00	.00		• 00	•00	حتسنت	
TOTAL		59											
ITEM NUMBER 3					COEFFI	CIENTS	OF CORRE	LATION		м8	ANS		
OPTION	WT	N	P		P8-\$T	PB-TT	8 - \$T	8-11		\$T	TT	25	
			_				.00	.00		.00	.09		
Û	0	0	.0		•00	•00	.71	.58	Ċ	18.00	66.85	+ 22	
C 1	1	27	93.1	¢	•41	.33	-,78	63	•	12.00	54.50	 -	
5	0	S	6.9		41	33	••••			••••	- · · ·		
TOTAL		29											
ITEK NUHBER 4					COEFFI	CIENTS	OF CORRE	LATION		ME	EANS		
NCITAO	WT	N	P		P8-\$1	PB→TT	8-57	8-11		\$T	TT	362	
		0	.0		.00	.00	.00	.00		.00	.00		
0	0	29	100.0	Ċ	.00	.00		.00	¢	17.59	66.00	+ 205	
C 1	1	0	.0	•	.00	.00	.00	.00	•	•00	•00		
2 Total	V	59	••		•••	,	•••			·			
						-41176	OF CORR	FE AT LON		HÍ	EANS		
ITEM NUMBER - 5					ÇUEFF.	IGICALS	OF GOING						
OPTION	WT	N	P		P8-ST	PB-TT	. B#ST	Batt		\$T	TT	417	
	•	0	.0		•00	.00	.00	.00		.00	.00	+ 212	
0	0	29	100.0	Ċ	•00	.00				17.59	66.00		
C 1	1		10040	v	.00	•00			-	.00	.00		220
28 TOTAL	0	0 29	••		• • • •	***				-			~~ ~ ~
LO TOTAL		47											

ERIC Full Text Provided by ERIC

LERTAP 2.0					SUMMA	RY ITE	4 STATIS	TICS				P
TEST NO 1 ACHI	E AEWEV.	CTINON T	RING 9W					SUBTE	ST S	ADDITI	ON ALGORIT	МН
ITEM NUMBER 6					COEFFI	CIENTS	OF CORR	ELATION		мб	ena;	
OPTIG~	WT		ρ		PB-ST	PB-TT	8 - 5T	8-11		ST	TT	
0	9	0	.0		.00	•00	•00	.00	_	.00	.00 66.25	683
C 1 2	1	26 1	96.6 3.4	C	07	.14 14	14	.27 34	·	17.54 19.00	59.00	+ 215
TOTAL	v	29	3,4		•••	-,,,	•••	-104		17.00	2,100	7 213
ITEM NUMBER 7					COEFFI	CIENTS	of Corr	ELATION		ME	ANS	
OPTION	t , T	N	ρ		P8-ST	PB=TT	B-ST	8-11		ST	TT	
c	0	0	.0		.00	.00	.00	.00		.00	.00	64
C 1	1	28	96.6	C	•38	28	.T4	.54	C	17.86	66.50	_ ~ ~ ~
5	0	1	3.4		38	~. 28	92	6T		10.G0	52.00	T
TCTAL		59										
ITEM NUMBER A					COEFFI	CIENTS	OF CORR	ELAT10N		не	ANS	
OPTION	WT	И	ρ		PB-ST	P8-TT	8 - \$T	B-TT		ST	ŤŤ	, ,
0	0	٥	. 0		.00	.00	.00	.00		.00	.00	О
C 1	1	59	100.0	C	.00	.00	.00	.00	C	17.59	66.00	+ 84
Z TOTAL	0	9 29	• 0		.00	• 0 0	.00	•00		• 0 0	•00	
ITEM NUMBER 4					COEFFI	CIENTS	OF CORR	ELATION		ME	ANS	
0P~10N	ÞŤ	И	P		PB-ST	₽B⊕TT	8-ST	8+17		ST	TT	7
c	0	0	.0		.00	.00	.00	.00		.00	.00	+ 59
Cl	1	26	96.6	C	.38	.26	. T4	•54	C	17.86	66.50	. —
2 Total	0	1 29	3.4		38	28	92	67		10.00	52.00	
TOTAL		27										
ITEM NUMBER 10					COEFTI	CIENTS	OF CORR	ELATION		HE	ANS	
NOITHO	WT	N	, P		P8-S7	P8-T7	B#ST	9-TT		S T	77	19
0	0	0	.0		.00	.00	.00	.00		.00	•00	
C 1	1	26	89 . T	C	.23	.23	. 38	.37	C	17.88	66.73	+ <u>44</u>
2	0	3	10.3		23	+.23	-,40	39		15.00	59.67	
TOTAL		29										



TEST NO 1 ACH	i Evement	MONITOR	170 94					SUBTES	T 5	AODITI	ON ALGORITHM	
ITEM NUMBER 11					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
OPTION	wT	и	P		PB-ST	PS⇒TT	8-57	B⇒TT		ST	TY	
0	0	0	•0		•00	•00	.00	.00		.00	. 60	
Ci	ì	59	96.6	C	07	.00	14	.00	C	17.54	66.00	56
5 ,	ò	•	3.4	•	.07	.00	.17	.00		19.00	66.00	
TOTAL	·	59										+ 34
ITEM NUMBER 12					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
0PT10N	wT	ĸ	P		PB-ST	P8+TT	B-ST	8-17		ST	TT	
		_			19	10	36	19		15.00	62.50	59
0	0	5	6.9	_	.05	[U	.07	.20	C	17.67	66.5B	
C	1	24	9.59	C	.10	08	-, 17	14	•	18.67	63.67	+ 65
5	0	3 29	10.3		•10	4.00	~	-114		••••		. 22
TOTAL		29										
ITEM NUMBER 13					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
OPTION	WT	N	P		PB-ST	PB+TT	8-ST	Ð⇒TT		ST	TT	
_			9.4		23	16	-,55	3B		13.00	58.00	104
0	0	1	3.4 65.5	С	.79	.45	1,02	.58	С	19.74	69.05	
C 1	1	19 9	31.0	٠	72	40	- 95	52	_	13.56	60.44	+ 839
2 701al	Ų	29	3110		4176	-1-4	- • • •					
FOTAL		27										
ITEM NUMBER 14					COEFF	CIENTS	OF CORRE	ELATION		ME	ANS	
OPTION	WT	N	P		P8-\$1	P8+TT	B+ST	BeTT		\$T	TT	559
	٨	0	. 0		.00	.00	.00	.00		.00	•00	
0 C 1	0	20	69.0	С	.84	.44	1.10	.58	C	19.70	68.80	+ 236
2	Ď	9	31.0	•	84	- 44	-1,10	+.5B		12.89	59.78	
TOTAL	•	29	****				-					
							OF CORRI	EL ATTON		HI	EANS	
ITEM NUMBER 15					COEFF	ICIENIZ	OF CORN	EL# 11011		•••	_	
OPTION	WT	N	P		PB+\$7	P8→TT	, 8#ST	8-11		ST	11	328
0	0	0	• 0		.00	.00	.00	.00		.00		+ 349
C 1	ĭ	15	61.7	C	.72	.47	.91	.59	C	50.50	70.27	
2	ō	14	48.3	-	+.72	+.47	-,91	59		14.79	61.43	
232 TOTAL	-	29										

ERIC

TEST NO 1 ACHI	EVEHENT	MONITOR	ING 9W					SUBTES	7 5	Appiri	ON ALGORITHM	
1TEM NUMBER 16					COEFF1	CIENTS C	of CORRE	ELATION		ME	ANS	
OPTION	wT	N	ρ		PB-ST	PB-TT	5 - \$1	8-77		\$T	TT	
9	0	1	3.4		38	 50	-,92	-1.20		10.00	41.00	
C i	i	23	79.3	C	-51	.44	.72	.62	C	18.57	68.13	431
5	ò	5	17.2	•	36	23	-,54	34		14.60	61.20	
TOTAL	•	29				•						+ 272
TEM NUMBER 17					COEFF1	01ENTS (of Coare	ELATION		ME	ANS	
MOITEO	WT	N	ρ		PB-ST	PB-TT	8 - \$T	8-11		SŢ	TT	
_	0	2	6.9		44	48	84	91		11.50	49.50	594
3				С	.63	.42	.84		C	19.05	68.43	277
¢i	1	6 21	72.4 20.7	·	- · 42	16	60	23	•	14,50	63.00	+ 383
5	v	29	2001			-4.0	-•					
JATOT		27										
TEM NUMBER TA					COEFFI	CIENTS (OF CORR	ELATION		ME	ANS	
OPTICH	WT	N	P		P8-ST	PB_TT	0-ST	B≠TT		ST	TT	482
0	0	1	3.4		38	50	+,92	-1.20		10.00	41.00	
ÇÎ	ì	25	86.2	C	.57	.37	.87	,51	C	18.44	67.40	+ 436
5	ò	3	10.3	•	4.42	12	70	20		13.00	62.67	
TOTAL	·	29										
					OOEFF	CLENTS	of corr	ELATION		ME	ANS	
1TEM NUMBER 19					000		-, •-					
OPTION	WT	N	P		PB+ST	PO-TT	8. \$T	B_TT		\$T	11	347
0	0	3	17.2		44	26	. 65			14.00	60,60	+ 589
Ci	1	14	48.3	Ç	.68	.31	.85		Ç	20.21	69.00	
ż	Ö	10	34,5		37	12	47	•. 15		15.70	64.50	
TOTAL	-	29				•						
					COEFF	1C1ENT\$	OF CORR	ELATION		м	EANS	
1TEM NUMBER 20					40411							188
OPTION	WT	N	P		P8-ST	PB-TT	8≠\$7	Ð≠TT		\$T	T7	+ 295
0	0	5	17.2		29	18	-,43			15,20	65.50	<u> </u>
Ci	ĭ	10	34.5	C	.66	.27	,85	.35	J	21.00	69.50	
\$	ō	14	48.3	-	-+41	••12	51	15		16.00	64.86	
TOTAL	•	29	-									
004								•				
234	:											9
												4

TEST NO 1	L ACHI	EVEMENT	HONITOR	ME ONI					SUBTES	iT 5	ADDITI	ON ALGORI	THM		
ITEM NUMBE	(\$ A		•			COEFFI	CIEKTS	OF CORRE	LATION		ME	ANS			
C	PTION	ΝT	N	P		P8=\$1	Pastt	8-\$1	8-11		ST	TT		,	١٥،
-	9	0	6	20.1		42	30	60	42		14.50	60.60		7	196
	C i	1	11	37.9	C	.69	.41	.69	.52	C	20.91	T0.91	•	+ 3	317
	5	ō	15	41.4		34	16	-,43	20		16.08	64.25		` -	
	TOTAL		59												
ITEM NUMBE	ER 22					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS			
· ·	PTJON	WT	N	P		P8-ST	P8-T7	0 ~ \$T	B≠TT		S T	TT			40
	ð	0	10	34.5		~.3T	19	-,4T	~.2 \$		15.70	63.50			69
	Ci	ì	Ť	24.1	Ç	.62	.56	.85	, TT	C	21.71	75.43	*-		2止
	ż	ō	12	41.4		19	30	-,24	38		16.75	62.58			길工
	TOTAL		29										4	-	34 57
ITEM NUMBE	ER 23					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS			
·	NO I TH	WT	N	₽		P8-ST	P8-TT	8-ST	B=TT		ST	TT			86
	Ó	0	14	48.3		·• 4B	33	61	41		15,71	62.19			
	C 1	1	_ B	27.6	C	.56	.54	. T5	. 12	C	51.00	74.25			54
	Š	Ó	T	24.1		02	18	03	25		17.43	63.00	-	j -	46
	TOTAL		59										'	,	ٽٽ
ITEM NUMBE	ER 24					COEFF	CIENTS	OF CORRE	LATION		ME	:ANS			.
d	PT 10N	WT	N	P		PB-ST	P6-TT	8 - \$T	8-11		\$ T	TT			95
	0	0	16	55.2		36	23	45	29		16.3T	64.06			99
	C 3	1	3	10.3	C	.40	.37	.68	.63	C	55.00	T6.33	+		78
	ź	ŏ	10	34.5		.12	.00	, 15	.00		18.20	66.00	•		
	TOTAL		59												

TEST NO 1 ACHIEVEMENT MONITORING OF

SUBTEST 6 SUBTRACTION ALGORITHM

ITEN NUMPER :					CoE#FI	CIENTS C	F CORREL	ATION		ME	NS	ITEM DESCRIPTIONS
OPTION:	WT	N.	ρ		Pa-ST		B⇒ST	B+TT		ST	TT	
OPITOR	* '		•								_	
0	0	0	.0		.00	.00	.00	.00		.00	.00	44
C 1	1	27	93.1	C	.19	.06	.33	•	С	12.07	66.15	• •
ż	Ŏ	5	6.9		19	06	~.3 7	11		B.00	64.00	- 60
TOTAL		29										
					COEFFI	CIENTS (F CORRE	LATION		HE	ANS	•
ITEM NUMBER 2					000		. •					
OPTION	WT	, N	P		PB-ST	PB-TT	8=57	B∺TT		51	TT	70
0	0		•0		.00	.00	.00	.00		.00	.00	78
C i	i	28	96.6	C	•3B	.16	. 73	.31	C	12.18	66.29	- <u>64</u>
2	ò	1	3.4	•	3B	-,16	91	₩.38		1.00	58.00	<u> </u>
TATOT	•	29				• •						
10176		-										
ITEM NUMBER 3					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
OPTION	WT	N	P		P8-5T	PB-TT	8-\$1	8.TT		ST	TT	110
• • • • • • • • • • • • • • • • • • • •											••	48
0	0	0	.0		.00	.00	.00	.00	_	.00	.00	-21
C i	1	26	89.7	C	. 53	. 49	. 86	.79	Ü	12.77	67.5B 52.33	
ż	0	3	10.3		53	49	90	83		3,33	52.33	
TOTAL		29										
					COEFF	ICIENTS :	OF CORRE	LATION		ME	ANS	
ITEH NUMBER 4										_		
OPTION	WT	N	P		PB-ST	PB-TT	8-57	B±TT		ST	TT	/ 21L
_	0	o	.0		.00	.00	.00	.00		.00	.00	63 +
0	1	28	96.6	C	.38	.16	,73	.31	C	12.18	66.29	- 523
C 1	5	1	3.4	•	38	16	- 91	38		1.00	68.00	
2 Toyal	v	29	5,4				-					
IVIAL		• *				· ·						
ITEM NUMBER 4					COEFF	ICIENTS	OF CORRE	LATION		H	ANS	
TIEN MONDER 4											TT	
OPTION	WT	N	P		PQ-ST	PG- TT	8-\$T	B-TT		\$T	,,	582
_			.0		.00	.00	.00	.00		.00	.00	- 232
0	0	0 26	96.6	C	.38	,10	,73	.31	C	12.16	66.29	
¢ 1	1	1	3,4	•	38		. 91	-,36		1.00	56.00	
2	v	29	5,1			•••	•	-				
TOTAL		E 7										

SUBTEST 6 SUBTRACTION ALGORITHM

1531 40 1 20	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,									-	-		
ITEM NUMBER 6					COEFFI	CIENTS	OF	CORRE	LATION		HE	ans	
0 P T10N	WT	N	P		PB-ST	P8-TT		8-\$1	8-77		\$T	TŢ	000
0	٥	1	3.4		** ST	50		65			4.00	41.00	998
Ci		25	86.2	C	.45	.49		.68	.T4	C	12.76	6 T. 84	- 676
2	_	3	10.3		-,34	25		58	-,43		6.33	59.00	
TOTAL		5.9											
ITEM NUMBER 7					COEFFI	CIENTS	0 F	CORRE	LATION		ME	ANS	
OPTION	WT	N	P		P8#\$T	PG-TT		8-51	8-11		ST	ΤŢ	43
	. 0	1	3.4		.,2T	50		45	-1.20		4.00	41.00	- 4
0 C 1	-	18	65.1	c	.15	.54		.95	.68	c	14.94	69.94	
2		10	34.5	٠	66	-, 35		85	46	•	6.90	61.40	
- Jatot		29	3410		00	-,55		-,	-140		••••		
ITEM NUMBER A	ļ.				COEFFI	CIENTS	OF	CORRE	LATION		ME	ENA	95
OPTION	HT.	N·	P		P8-\$T	P8-TT		8-51	8+11		ST	TT	- ⁷³
e	. 0	1	3.4		21	50		65	-1.20		4.00	41.00	
C i	-	18	62.1	С	• TT	.60		99	.TT	C		T0.44	
2 ,		10	34.5		69	42		₩,88	w. 55		6.T0	60.50	
TOTAL		59											
ITEM NUMBER 9	,				COEFF	CIENTS	0 F	CORRE	LATION		ME	ANS	רד
Tiem Nowber 3					••••		-				_		′6′
OPTION	ı wT	N	P		PB+\$T	₽B⊕TT		8-\$T	BeTT		\$1	TT	- <u>77</u>
0	. 0	1	3.4		21	 5		65			4.00		
C i	-	17	58.6	C	• T0	.50		. 88	.63	C	14.94	69.94	
ž		11	31.9		60			→ • T T	40		T+64	62.18	
TOTAL	•	59											
ITEM NUMBER 14					COEFF	ICIENTS	OF	CORRE	LATION		M	EANS	~
• • • • • • • • • • • • • • • • • • • •			_		P8+ST						ŞT	77	31
OPTION	: WT	N	P		16-01	P0-11		0-31	00,1				- 15
0	, 0	2	6.9		34	₩.40		66	₩. TT			52.00	********
C i		18	62 • 1	Ç	. 84	.51		1.0T	.13	C	15.33	10.55	
		Ÿ	31.0		69			91	₩.50		6.22	60.6T	
240 total		29											

LEN14F 2.0					9 4 (1)	*** * I C							•
TEST NO 1 ACH	IEVENENI	MONITO	RING 9W						SUBTES	т (SURTER	CTION ALGOR	HITH
ITEM NUMBER 11					COEFFI	CIENTS	or c	CORRE	LATION		ME	ANS	
OPTION	WT	٨	P		PB#ST	P8-TT	•	B-ST	8-TT		ST	TT	
r	0	2	6.9		34	40		66	77		5.00	52.00	
C 1	1	20	69.0	¢	.83	. 55	1	1.09	.72	¢	14.80	69.50	77
è	Ŏ	7	24.1		70	36		95	49		5.14	60.90	- 20
TOTAL		5 9											- 29
ITEM NUMPER 12					COEFF	CIENTS	OF (CORRE	LATION		МЕ	ANS	
	=		_						8.11		ST	TT	
AGITQO	WT	N	P		P8#\$1	P8-TT	•	B_ST	0411		_		
ô	0	2	6.9		34	40		66	77		5.00	52.00	72 - <u>63</u>
C 1	ì	19	65.5	¢	.75	58			.71		14.74	69.79	13
2	0	8	27.6		61	36		81	48		6.50	60.50	- 63
JATOT		29											
ITEM NUMBER 13					COEFF	ICIENTS	OF C	CORRE	LATION		ME	ANS	
00710	u₹	N	ρ		00.467	PB-TT		12_C	8-71		Sĩ	77	
OPTICA	wT	N	•		P6-31	PB-11		, - 3 ,	D# 11				4.52
0	0	6	20.7		19	-,42		26	60		9.83	58.17	453
¢ i	1	9	31.0	¢	.74	.74		.98	. 96	¢	17.78	76.33	- <u>215</u>
Ş	0	14	48.3		54	-,34	•	-,68	42		8.79	62.71	
TOTAL		29											
ITEM NUMBER 14					COEFF	CIENTS	OF (CORRE	LATION		ме	EANS	
*****	wT	N	P		00-67	PB⇒TT		12_C	0_77		ST	77	054
OPTION	WI	IN	•		F6-31	P0-11							950
Ó	0	4	13.8		24	-,42		38				56.00	- 219
C 1	1	9	31.0	¢	.73			. 96	.99	¢	17.67	76.67	-
ž	0	16	55.2		51	-,41	•	64	52		9.31	.62.50	
TOTAL		29											
STEM NUMBER 15					COEFF	CIENTS	0# 0	CORRE	LA7ION		м	ANS	_
OPTION	W7	N	P		P8-S7	₽8 -17	1	B=57	8 - TT		ST	TT	994
_			٠. ١		19	=, 47		26	64		10.00	58.14	- 336
, 0	0	7 8	24.1 27.6	r	.65	.65		.87	.88	e	17.50	76.00	
C 1	0	14	48.3	~	42	18		- 53	53	•	9,43	64.21	
TOTAL	V	29	4013		146				163		- 140		
1414		47											

TEST NO 1 ACF	(TEAEHER	T HONITOR	ing gw					SUBTES	7 6	SUBTRA	CTION ALGOR	SITHM
ITEM NUMBER 15.					COEFFI	CIENTS	OF CORRE	LATION		мЕ	ANS	
OPTION	μT	8	P		28-51	P8-TT	8-\$1	8.11		\$T	TT	
0	0	Ŧ	24.1		17	44	-,24	60		10.14	50.71	
0.1	1	9	31.0	С	.65	.55	.85	.73	C	17.00	T3.T8	711/
ž	0	13	44.8	-	+.45	14	₩, 5 T	18		9.08	64.54	146
JATOT		53										- <u>584</u>
ITEM NUMBER 17					COEFFI	CLENTS	OF CORRE	LATION		HE	ANS	
OPTICH	wT	N	Р		P8 ⇒ \$T	P8=TT	8-\$T	8=11		ST	TT	
9	0	ó	20.T		22	+.36	31	51		9.50	59.33	
c i	ĭ	12	41.4	c	77	.51	.98	. 15	c	16.TS	T2.42	914
2	0	ii	37.9	•	60	- 28	-, TT	 36	•	T.64	62.64	- 610
TOTAL	·	29	0,07		- 100	•••	•	••-				340
ITEM NUMBER 18					COEFFI	CIENTS	OF CORRE	LATION		ME	EANS	
OPTION	нт	N	P		P8=\$T	PB-TT	8-51	Bett		\$ T	TT	
	_		•/ •		19		-,26	₩.46		10.00	60.43	677
0	0 1	7 11	24.1 37.9		. TT	33 .51	.98	. 13	c	17.09	72.91	017
Ci	1	•	31.9	·	60	28	#•TT	36	•	T.64	62.64	-343
TOTAL 5	U	11 29	3119		00	-,20	*• •••	-130		, , , ,		
ITEM NUMBER 19					COEFFI	CIENTS	OF CORRE	ELATION		МЕ	ANS	
0PT:0N	WT	N	. P		P8-ST	P8±TT	8-\$1	8-11		ST	TT	JI 2 G
	^	10	34.5		06	-, 42	10	~.54		11.20	60.60	428
0	0	10 2	6.9	С	.41	• 40	.79	• 11	c	20.00	80.00	- 289
C I	0	17	58.6	•	14	.19	-,17	.24	•	11.18	67.53	
2 Total	v	29	3010		-114							
IOIAL		•										

COEFFICIENTS OF CORRELATION

.31

.16

.66 -.17

P8-ST P8-TT

-.11 .39

-- 14

31.0 10.3 C

58.6

3

11

MEANS

ST

10.89

18.00 11.18

-.54

.63

.20

TT

60.22

T6.33

61.24

SUMMARY ITEM STATISTICS

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661 462

164

ITEM NUMBER 2.

244

OPTION

Ci

TOTAL

WŢ

LERTAP 2.0

	€.0							4 DIWITE					
TEST NO	1 ACHI	EVEMENT	MONITG	RINO 9W					SUBTES	T 6	SUBTRA	CTION ALGOR	HTTHM
ITEM NU	MEER 21					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
	OPT10N	μT	Ņ	P		PB-ST	PB-TT	B-ST	Batt		ST	TT	
	0	0	18	41.4		.11	19	,14	 24		12.50	63.83	100
	C ;	1	3	10.3	C	. 43	.41	.73	.69	C	18.67	77.33	685
	Š	0	14	48.3		37	06	47	₩•07		9.11	65.43	- 596
	TOTAL		5.8										310
ITEM NU	HUER 22					COEFFI	CIENTS	OF CORRE	LATION		мЕ	EANS	
	OPTION	WT	N	P.		₽B⇔ST	PB_TT	8-51	B-TT		51	77	
	0	0	13	44.8		. 15	17	.19	21		12.67	64.23	
	C 1	1	3	10.3	C	.52	.54	.88	.92	C	50.00	81.00	620
	S	٥	13	44.8		47	16	59	+.20		9.00	64.31	
	TOTAL		59										-· <u>545</u>
ITEM NU	MBER 23					COEFFI	CIENTS	OF CORRE	LATION		нЕ	EANS	
	OPTION	WT	N	P		P8-ST	P6_TT	8-57	8-77		ST	TT	
	0	o	15	51.7		.24	06	.31	~. 07		13.07	65.47	701
	C 1	1	1	3.4	C	. 25	.34	.60	. 85	C	19.00	83.00	701
	S	0	13	44.8		34	₩.07	-,43	0B		9.77	65.31	- 599
	TOTAL		54										
ITEH NU	MBER 24					COEFFI	CIENTS	OF CORRE	LATION		МЕ	EANS	
	MOITSO	нT	N	P		PB-ST	PB-TT	8.51	8-11		57	TT	
	0	0	15	51.7		.35	.11	.43	.14		13.60	67.00	400
	C i	1		• 0	C	.00	.00	.00	.00	C	.00	.00	- 276
	ž	ō	14	48.3		35	11	-,43	*.14		9.86	64.93	<u> </u>

LERTAP 2.0			,		SUMMA	RY ITEM	STATIST	105				PAGE 16
TEST NO 1 ACK	EVEKENT	MONITO	RING AU					SUBTES	ST 1	OBJECT	rest esvir	
ITEM NUMBER 1					COEFFI	CIENTS	OF CORRE	LATION		ME	EANS	ITEM DESCRIPTIONS
OPTION	жT	N	P		P8+\$T	P5-TT	8 - \$7	B-TT		\$T	TT	
‡	0	٥	. 0		.03	.00	.00	.00		.00	.00	
C 5	1	30	93.8	C	.61	. 40	1.09	.7;	C	12,97	76.TO	Numerousness
3	0	1	3.1		20	+.10	*,49	₩.25		11.00	72.00	Writes N-99
	0	1	3.1		66	46	01.62	-1.13		7.40	58.00	
TOTAL		35										
ITEM NUMBER >					COEFFI	CIENTS	OF CORRE	LATION		Mę	ANS	•
NOTTO	WT	N	P		PB-\$1	P8-71	B=ST	9.11		ST	TT	
1	0	0	.0		.00	.00	.00	.00		.00	.00	
2	0	0	• C		.00	•00	.00	.00	_	.00	.00	Numerousness
C 3	1	32	100.0	C	.00	•00	.00	.00	C	12.12	75.97	Represents 0-99
4	0	0	.0		.00	.00	.00	.00		,00	.00	
TOTAL		: 3										
TEM NUMBER 3					GOEFFI	CIENTS	OF CORRE	LATION		ME	EANS	
OPTION	WT	N	P		PB=ST	PB-TT	B-ST	8-17		ST	TT	
1	0	1	3.1		66	-, 46	-1,62	-1.13		T.00	58.00	
ş	ŏ	ō	.0		.00	.50	.00	.00		.00	.00	Problem Solving (A)
C 3	1	31	96.9	C	.66	.48	1.27	.88	C	12.90	76.55	Subt-simple separating 11-15
4	0	0	.0		.00	.00	.00	.00		.00	.00	**************************************
TOTAL		35										
ITEM NUMBER 4					COEFFI	CIEN75	OF CORRE	LATION		ME	ANS	
OPTION	WT	N	P		PB~ST	P8-71	B-ST	8_11		sī	TT	
C 1	1	27	84.4	С	. 64	49	. 95	.59	C	13.15	T7.19	
ž	ō	1	3,1	-	20	*.13	49	*.31		11.00	71.00	Problem Solving (A)
ā	Ö	3	9.4		-142	-0,42	-,73	·* • 74		10,67	66.67	Subt-comparison 0-99
ž.	Ö	ī	3.1		43	.00	-1.06	.00		9.00	T6+00	•
TOTAL		35										

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	¥ 1.21 / 1					COCTA	O 40 110	01 C.A				AIII	
	OPTION	WT	` N	' Р		PB-ST	PB+TT	8-51	8 ~TT		ŞT	* TT	*
	1	ũ	5	6.3		45	.11	88	. 22		10.00	T9.00	
	2	0	0	.0		.00	.00	.00	.00		.00	.00	Problem Solving (B)
	Ç 3	1	30	93.8	C	. 45	11	.79	20	C	12.90	75.77	Subt-join-addend 11-15
.,	4	Ö	0	. 0		.00	.00	.00	.00		.00	• 0 0	-
	TOTAL		35									• • •	
ITEM N	UMBER Jelo					COEFFI	CIENTS	OF COARE	LATION		ME	ANS	,
	NGITGO	WT	N	P		P8-ST	PB-TT	8-ST	B⇒TT		\$T	TT	
	C 1	1	28	67.5	C	.66	.23	1.02	. 35	C	13.11	76.57	
	2	0	1	3.1		20	13	-, 49	*.31		11.00	T1.00	Problem Solving (B)
	3	Ó	S	6,3		45	• . 22	B6	43		10.00	70.00	Add-simple joining 0-99
	4	ò	ī	3.1		43	•00	-1.06	•00		9.00	76-00	, 3
	TOTAL		32				,,,		,		. •		

TEST N	0 1 4CH1	EVEHENT	r HONITO	UA, DNIR					SUBTES	T 1	OBJECT	IVES TEST		
ITEH N	UMBER 81					COEFFI	CIENTS (OF CORRE	LAT10N		мε	ANS		
	OPTION	WT	N	P		PB=\$T	P8=TT	8=ST	B⇔TT		ŞT	77		
	1	0	0	.0		.00	.00	• 00	.00		.00	€ 00		
	2	0	0	• 0		.00	.00	.00	.00		.00	.00	Order, Place Value	
	С 3	1	32	100.0	C	.00	.00	.00	.00	C	12.72	T5.97	Ordering 0-99	
	4	0	0	.0		.00	.00	• 00	.00		.00	.00		
	TOTAL		38											
ITEM N	UMBER #8					COEFFI	CIENTS	OF CORRE	LATION		WE	ANS	•	19/
٠.	9#710N	WT	N	P		PB-ST	PB⇔TT	B≠ST	B-TT		\$T	¥T		
	1	0	9	28.1		15	-,19	21	26		12.33	T3.78		
	СŞ	1	18	56.3	C	.61	41	, 76	51	С	13.56	TB.50	Order, Place Value	
	3	ō	ĭ	3.1		•61 ••66	- 46	-1.62	-1.13		T.00	50.00	Place Value 0-99	
	4	Õ	ž	12.5		35	11	ST	1T		11.25	T4.00		
25 0	TOTAL	-	38				• • •		+ - •		•			

SUMMARY ITEM STATISTICS

LERTAP 2,0

PAGE 17

	, and 1					•••••	•		-		· -		
	OPT; GN	WŢ	N	P		P8-51	P8-TT	8-57	8-11		ST	ŤŤ	
	,	Ó	0	.0		.00	• 0 0	.00	• 0 0		.00	•00	
	C 2	1	32	100.0	С	.00	.00	.00	.00	C	12.72	75,97	
	3	ō	9	•0	•	.00	.00	.00	• 00	-	• 00	.00	Sentence Writing (A)
	4	Ö	Ó	.0		.00	.00	.00	.00		.00	.00	Add-part part whole 11-15
	TOTAL		35	-									س بو •
						445557	015	OF CORRE	. 47 706		V	ANS	• 168
ITEM NUH	•												
	OPTION	WŢ	N	P		PB-ST	P8-TT	9 - \$T	8-11		ST	TT	
	1	0	0	.0		.00	•00	.00	•00		•00	•00	
	5	0	0	•0	_	.00	.00	.00	.00	С	+00	.00	Sentence Writing (A)
	C 3	1	35	100.0	С	•00	•00	.00	•00	·	12.72 .00	7 5, 97	Subt-simple separating 0-99
	4 Total	v	0 32	• 0		• • • •	.00	•00	• • • •		•00	***	
. Enwin						CHMUS	RY ITEM						PAGE 18
LERTAP ;	5.0			10		SAMMA							
TEST NO	1 ACM:	EVEHENT	MONITO	RINO AU				,	SUBTES	T 1	OBJECT	IVES TEST	
ITEM NU	MBER , DI					COEFFI	CIENTS	OF CORRE	LATION		МЕ	ANS	
	OPTION	WT	N	P		P8-ST	P8-TT	8-57	8-TT		5 1	TT	
	1	0	5	6.3		04	.07	07	•15		12.50	78.00	
	5	ŏ	6	18.8		·+·53	07	-,76	10		11.00	75.00	Sentence Writing (B)
	C3	ĭ	53	71.9	C	, 64	.05	.85	,02	0	13.35	76.04	Subt-join-addend 11-15
	4	ō	1	3.1	-	43	•00	-1.06	•00		9.00	T6.00	
	TOTAL	-	32				¥ = -						
ITEM NUF	HBER 2012					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
	OPTION	WT	N	ρ		PB-ST	P8-TT	8-\$1	8-11		ST	TT	ara
252	-								_				253
7. Ju	1	0	2	6.3		12	•.35	.,23	68	_	12.00	66.50	Sentence Writing (B)
	C 5	1	29		C	.49	.56	+81	,92	C	12.97	77.24	Subt-part part whole-addend
	3	0	0	-•0		•00	.00	,00	.00		•00	+00	0-99
	-07.1	0	1	3.1		-•66	-,46	-1.62	-1-13		7.00	58.00	
	TOTAL	,	32	•				_					4

CORFFICIENTS OF CORRELATION

ITEM NUMBER

MEANS

ESRIAP C.U			^		JOHNA	Mr Tiem	T.A. 201.	• • •				•
TEST NO 1 ACHI	EVEMENT	MONITO	RING AU					SUBTES	т 1	OBJECT	IVES TEST	
ITEM NUMBER 13					COEFFI	CIENTS O	F CORRE	LATION		ME	ANS	
OPT 10%	WT	N	ρ		P8-\$T	P8+TT	8-51	8-11		\$1	TT	
1	0	1	3.1		~. 08	~. 25	20	63		12.00	66.00	
C 5	1	31	96.9	¢	.0B	.25	.16	.49	Ċ	12.74	76.29	Algorithms
3	ō.	0	.0		.00	.00	.00	.00		.00	• 0 0	Addition Algorithm
4	0	. 0	.0		.00	.00	.00	.00		.00	•00	
TOTAL		32										
ITEM NUMBER 14					COEFFI	CIENTS O	F ÇORRE	LATION		нЕ	ANS	
OPTIÇN	ЖŤ	N	P		P8#\$T	PB=TT	B ~ \$T	8-11		\$1	TT	
1	0	9	.0		.00	•00	.00	.00		• 0 0	•00	
ė	0	0	.0		.00	.00	.00	.00		.00	• 00	Algorithms
ĊЗ	1	32	100.0	C	.00	• 00	.00	.00	¢	12.72	T5.97	Subtraction Algorithm
4	0	0	.0		.00	•00	.00	•00		.00	• 00	
TOTAL		32										

LERTAP 2.0					SUMMA	RY ITEM	STATIST	ics				· ·
TEST NO 1 ACH!	EV, HEN1	T MONITO	RING AU					SURTES	1 2	SENTER	ICE WRITING	FREF RPSPONSE
ITEM NUMBER 1					COEFF	CIENTS	OF CORRE	LATION		ме	(ANS	TERM DAGGET BET AND
OPT10%	WT	N	P		P8+5T	P8-TT	8-51	8-11		ST	TT	ITEM DESCRIPTIONS
0 C 1 5 0	0 1 0	0 26 4 32	.0 87.5 12.5	¢	.00 .72 72	.00 .55 55	.00 1.13 -1.16	.00 .85 88	¢	.00 3.79 2.25	.00 77.43 65.75	Sentence Writing Subt-comparison 11-15
ITEM NUMBER 2					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
OPTION	WT	N	P		P8-ST	P8-11	8-51	B=T1		ST	TT	
0 C 1 S Tatat	0 1 0	0 31 1 32	96.9 3.1	C	•00 •41 ••41	.00 .13 13	.00 .79 -1.01	.00 .24 •.31	С	.00 3.65 2.00	.00 76.13 71.00	Sentence Writing Add-part part whole 0-99
ITEM NUMBER 3					COEFFI	CIENTS	OF CORRE	LATION		MÉ	ANS	
OPTION	WT	N	P		P8=51	PB-TT	8-51	8-11		S T	TT	
0 C 1 2 Total	0 1 0	0 25 7 32	78.1 21.9	С	00.77 -,77	58 58	.00 1.07 -1.08	.00 .38 ~.39	С	.00 3,86 2.57	.00 77.00 72.29	Sentence Writing Subt-join-addend 0-99
ITEM NUMBER 4					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	
OPTION	wT	N	ρ		P8-51	P8-TT	8+51	8-11		\$T	TT	
0 C 1 2 Total	0 1 0	0 31 1 32	.0 96.9 3.1	С	.00 .41 41	.00 .13 -,13	.00 .79 -1.01	.00 .24 31	С	.00 3.65 2.00	.00 76.13 71.00	Sentence Writing Add-simple joining 11-15

LERTAP 2.0 SUMMARY ITEM STATISTICS PAGE 23.

LERTAP 2.0					SUMMA	RY ITEM	STATIST	[(; >				
TEST NO 1 ACHI	EVEMENT	MONITO	RING AU					SUBTES	т 3	ADDITI	ON FACTS	
							- 00005	ATTON		ME	4NS	ITEM DESCRIPTIONS
ITEN NUMBER 1					COEFFI	CIENTS 0	F CURRE	LATION				
OPTION	WT	N	٩		P8-ST	P8-TT	8#\$T	8-11		ST	TT	
e	0	0	.0		.00	.00	.00	.00		.00	•00	1 + 5
Ci	i	35	100.0	C	.00	.00	.00	.00	Ç	11.12	75.97	2
ž	ŏ	Ö	.0		.00	.00	•00	.00		•00	• 0 0	
TOTAL		32										
iten nunber >					COEFFI	CIENTS C	F CORRE	LATION		ME	ANS	
TIEN MANAGES S					_			8+TT		ST	TT	
HO1140	WT	N	₽		P8-51	PBeTT	8-ST	8#11		3 1	• • •	
•	0	0	.0		.00	.00	.00	.00		.00	•00	
0 C 1	ĭ	31	96.9	C	.02	00	.04	 00	C	11.13	75.9T	3 + 2
5		i	3.1	•	03	•00	05	.00		11.00	76.00	
TATAL	•	32	4.7									
					COEFFI	CIENTS (OF CORRE	LATION		ME	ANS	
ITEH NUMBER 3								_			TT	
NOITEO	WT	N	P		P8 - \$T	P8-TT	8-ST	8-11		\$T		
0	0	0	.0		.00		.00	.00	_	.00	• 0 0	
Çí	ž	32	100.0	C	.00	.00	.00	.50	Ç	11.12	75.97	4 + 4
ž	Ŏ	0	.0		.00	.00	.00	.00		.00	• 0 0	
TOTAL		32										
ITEM NUMBER 4					COEFF	ICIENTS	OF CORRE	LATION		м	EANS	
OPTION	WT	N	P		PB-ST	P8-TT	8-ST	8-TT		\$T	TT	
OFITAN		••									.00	
0	0	0	.0		.00		.00	.00	^	•00	75.97	3 + 6
Ci	1	32	100.0		.00		.00	.00	·	11.12	.00	• • •
2	0	0	.0		•00	.00	•00	•00		•••	•••	
TOTAL		32										
ITEM NUMBER S					COEFF	ICIENTS	OF CORRE	ELATION		M	EANS	
_	4		P		12-60	P8-TT	B-ST	0 . TT		\$T	TT	
OPTION	WT	N	<i>-</i>		- 6-41	,	J 4.					
0	0	0	.0		.00		•00	.00	_	.00		
C i	ĭ	32	100.0	Ç	.00	.00	.00		C	11.12	75.97	4 + 3
ž	ō	0	.0		.00	.00	,00	• 0 0		.00	•00	
TOTAL	-	32						•				

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LERTAP 2.0					SUHMA	RY ITEM	STATIST	108					100 84
TEST NO 1 ACHI	EVEMENT	OTINOM	NA BNIR					SUBTES	т 3	ADOITI	ON FACTS		
ITEM NUMBER 6					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		
0PT10H	¥T	N	P		P8+5T	P8-TT	A-ST	8-11		ST	ान		
0	0	ė	.0		.00	.00	•00	.00		•00	•00		
C i	ĭ	35	100.0	C	.00	.00	.09	.00	C		T5.97	6 + 2	
ž	ò	ō	•0	-	.00	•00	.00	.00		.00	.00		
TOTAL	•	35											
ITEM NUMBER 7					COEFFI	CIENTS	OF CORRE	LATION		HE	ANS		I
OPTION	WT	N	P		P8-ST	P8-TT	8-ST	8-11		ST	TT		
0	0	8	6.3		••5T	-,45	-1.12	v.90		6.50	63.50		
C 1	ĭ	26	81.3	c	, T2	.68	1.03	.91	C	11.54	T8.2T	5 + 8	
Ş	ō	4	12.5	•	44	-,4T	# • TO	T5		9.15	6T.25		
TOTAL	·	35	7275			·							
ITÉM NUMBER a					COEFF	CIENTS	OF CORRE	LATION		ME	ANS		
NOITAO	WT	N	ρ		PB-ST	PB-TT	8-51	8#11		ST	TT		
o	0	2	6.3		-,35	2 T	69	+,54		9.50	68.50		
C i	ì	21	84 . 4	C	.62	.54	.92	.81	C	11.44	71.63	6 + 9	
ž	C	3	9,4		++48	45	84	19		9.33	66. 00		
TOTAL		35											
ITEM NUMBER 9					COEFF	CIENTS	OF CORRE	LATION		ME	EANS		
OPTION	WT	N	P		PB-ST	P8-TT	8#\$1	8-11		\$T	TT		
0	٥	2	6.3		++ST	45	-1.12	~.90		8.50	63.50		
Çî	ĭ	30	93.8	C	•57	_	1.01	.60	C	11.30	76.60	9 + 3	
ž	ō	Ö	.0		.00			.00		.00	•00		
TOTAL		35	_			•							
ITEM NUMBER 10					COEFF	CIENTS	OF CORRE	LATION		ME	ANS		
OPTION	WT	N	P		P8-ST	P8+TT	8-51	8-11		ST	TT		
_	•	4			44	37	+. T0	· ≈ •60		9.15	69.00		
0 C 1	0	4 24	12.5 18.1	e	.56	.42	.78	,59	C	11.48	TT • 56	5 + 7	_
260 2	•	25 3	9.4	•	*.3 0	16	53	*.31	•	10.00	72.00		26i
AUU TOTAL	•	32			~		. •						MUI
1415		71											

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					W
TEST	NO	•	ACHIEVEMENT	MONITORINO	ÄŲ

SUBTEST 3	AODITION	FACTS
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TEST NO 1	ACHIEV	EHENT	HOTINON	INO AU							•		
ITEM NUMBER	11					COEFFI	CIENTS	OF CORRE	"ATION		ME	ANS	
OPT1	101.	WT	N	P		P3-ST	PB=TT	9-5T	8-11		ST	11	
701	0 1 2 TAL	0 1 0	32 2 32	3.1 90.6 6.3	c	32 .48 35	13 .32 29	79 .79 69	31 .52 57	c	9.00 11.31 9.50	71.00 76.69 68.00	8 + 9
ITEM NUMBER	12					COEFFI	CIENTS	OF CORRE	LATION		МЕ	2NA	
OPT		WT	N	P		PS#ST	PB-71	B-ST	8-17		ST	77	
	0 C 1 2 TAL	0 1 0	3 28 1 32	9.4 87.5 3.1	С	-:48 :52 -:17	••12 •08 •05	84 .80 42	2! .12 .13	C	9.33 11.36 10.00	73.33 76.18 78.00	3 + 8

TEST NG 1 A	ACHIEVE	MENT MON1	TOPING AU		SUBTEST 4 SUBTRACTION FACTS									
ITEM NUMBER	1				COEFF	ICIENTS	OF CORRE	ELATION		ме	EANS	ITEM DESCRIPTIONS	174	
0PT10	ON W	T %	P		PB-ST	P6≠TT	8 - ST	8-11		ST	TT			
	0	0 0	.0		.00	. 10	.00			.00	.00			
C	1	1 32	100.0	C	.00	.00	.00	.00	C	10.72	75.97	5 - 1		
	5	0 0	.0		.00	.00	.00	.00		.00	•00			
7072	ÄL	, 35												
ITEM NUMBER	2				COEFF	ICIENTS	of CORRE	ELATION		hi	ANS			
0PT10	ON W	ī N	ρ		PB-ST	P8-TT	9-ST	8-11		ST	TT	/		
		0 1			32		_ 79	.13		9 00	78.00	·		
	0 9			c	-132	05	.62	10	c	10.81	75.90	9 - 2		
		• •			.00		.00	.00	•		.00	, <u>.</u>		
TOTA	_	35	7.		•••		•••	•••		•••	•••			
ITEM NUMBER	3				COEFF	ICIENTS	or corre	LATION		ME	ANS			
•	-													
OPTIO	DN M.	T N	P		PB→ST	P8-TT	8+51	8-11		ST	TT			
	0	0 0	.0		.00	.00	.00	.00			•01			
C	1	1 35	100.0	C	.00	.00			C	10.72	75.97	8 - 7		
	2	0 0	• •		.00	.00	.00	.00		.00	.00			
TOTA	aL	32												
ITEM NUMBER	L				COEFF	CIENTS	OF CORRE	LATION		ME	ANS			
09710	ON H	T N	ρ		P8-ST	P8-TT	8-ST	8⇒11		, ST	TT			
	•	0 0	-		•00					.00	.00	5 - 3		
	1	_			.44	.40	. 8S	.79 -1.00		10.84 7.00	76.48 6 0.00			
TOTA		32			44	40	2 1.00	-1.00		7.00	•0.00			
ITEM NUMCER					COFFE	inteure	OF CORRE	T ATTON		Mę	ANS .			
TIEM HONDSH	~				OVER !									
OPTIO	DN W1	T N	P		₽B≠ST	PB-TT	8-51	8 - TT		ST	TT			
A . A . A		0 1	3.1		44			-1.09		7.00	60.00		263	
264 •					.44	.40	.85	.79	C	10.84	74.48	7 - 6		
	Ž (0			.00	.00	.00	.00		• 00	•00			
ATOT	AL.	35												

ERIC Full Text Provided by ERIC

LERTAP 2.0					SUMMA	KA TIEM	2141131	103				
TEST NO 1 ACH	(EVEHEN:	OTINCH T	PING ÂU					SUBTES	T 4	SUBTRA	CTION FACTS	
ITEM NUMBER 6					COEFFI	CIENTS	OF CORRE	LATION		M€	ANS	
OPTION	WT	N	P		P8-ST	P8-TT	8-ST	8-TT		\$ *	TŢ	
o	0	0	.0		•00	.00	.00	.00		,00	.00	
¢ i	ì	35	100.0	c	.00	.00	.00	.00	C	10.72	75.97	8 - 5
2	ó	Õ	.0	•	•00	•00	.00	.00		.00	•00	
TOTAL	•	32	• •									
ITEM NUMBER 7					COEFFI	CIEN75	OF CORRE			. не	ANS	
OPT:ON	HT	N	P		PB-ST	P8-TT	8 - 57	8-TT		ST	TT	
	0	1	3.1		44	~.0B	-1.0B	19		7.00	73.00	
0 C 1	ĭ	30	93.8	c	.38	.38	. 66	.68	C	10.87	76.67	14 - 7
5 1	ò	1	3.1	•	0B	46	21	-1.13		10.00	58.00	
LATOT	•	35	•••			·						
ITEM NUMBER A					COEFFI	CIENTS	of CORRE	LATION		мЕ	ANS	
OPTION	WT	N	P		P8-ST	PB-TT	8-51	8-77		ST	77	
•	0	3	9.4		57	20	-1.00	34		8.00	71.67	
0 C 1	ĭ	26	61.3	c	.80	.21	1.15	.30		11.31	76.69	12 - 1
2	ò	3	9.4	•	50	09	08	-,16		8.33	74.00	
70TAL	•	35	•••			•						
ITEM NUMBER 9					CGEFF	ICIENTS	OF CORRE	LATION		ME	EANS	
OPTION	нт	ĸ	P	•	P8-ST	P8 - TT	8 - 91	8⊷77		ST	TT	
	0	2	6.3		63	35	-1.24	68		7.00	66,50	
0	ĭ	29	90.4	ć	-57	.47		•77	Ċ	:1.00	77.03	11 -
C 1	0	- 1	3.1		-,08	30		4,75		10.30	64.00	
707AL	v	35	•		-,,-	• • •						
ITEM NUMBER TO					COEFF	ICIENTS	OF CORRE	ELATION		94	ea;ns	
0P710N	WT	N	۶		P8-ST	P6+TT	Ð⊕ST	6-11		s۲	TT	
		6	16.8		-, 75	~.21	-1.09	*.31		8.33	72.03	
. 0	0	19	59.4	c	.72	36			S	11.63	7e.05	13 - 1
c 1	0	7	21.9		15	52		·*.31		10.25	73.00	
TOTAL	٧	32										
10145		35										



12 - 9	

PAGE 29

LERTAP 2.0 TEST NO 1 ACHI	EVEMENT	HONITOR	10 Ing au		SUHMA	RY ITEM	STAT		; BT ES '	г 4	SUBTRA	CTION FACTS	
ITEM NUMBER 11					COEFFI	CIENTS	of Cof	RELAT	ION		ME	ANS	
OPTION	wT	N	P		P8-ST	PB+TT	8-	ST E	3 - TT		ST	ŤŤ	
C 1 2 Total	0 1 0	35 5 5 1	3.1 90.6 6.3	С	32 .29 12	+.23 .21 +.09	* • • • • • • • • • • • • • • • • • • •	48	.56 .35 .16	С	8.00 10.86 10.00	67.00 76.45 73.50	12 - 9
ITEM NUMBER 12					COEFFI	CIENTS	or co	RRELA ¹	TION		ME	ANS	
OPTION	WT	N	P		P8-ST	PB-TT	8-	ST (B+TT		ST	ŤŤ	
0 C 1 2 Total	0 1 0	6 21 5 32	18.6 65.6 15.6	c	+,65 .64 15	-,17 .17 05		83	•.24 •22 •.07	С	6.67 11.43 10.20	73.50 76.86 75.20	15 - 8

TEST NO 1 ACMIEVEMENT HONITORING AU

SUBTEST 5 ADDITION ALGORITHM

ISST NO 1 WOWT	C. CC. (1)	***********										
ITEM NUMBER 1					CoEF#I	CIENTS	OF CORRE	LATION		ME	ANS	ITEM DESCRIPTIONS
OPTION	wT	N	₽		PB-ST	PB-TT	8-51	B-TT		ST	TT	
	0	0	.0		.00	.00	.00	.00		.00	.00	43 + <u>25</u>
0 C 1	ĭ	35	100.0	C	.00	.00	.00	.00	C	21.75	75.97	72
2	Ď	35	.0	•	.00	.00	.00	.00		.00	• 00	+ 25
TOTAL	•	32.	••									
					COFFE	CIENTS	OF CORRE	LATION		ME	ANS	
ITEM NUMBER P					COLIT		.,					
MOITED	WT	N	۴		PB=ST	PB. TT	9-51	B_TT		ST	TT	111
			.0		.00	.00	.00	.00		.00	.00	14
0	0	.0	93.8	C	.25	50.	45	. 03	C	21.87	T6.00	+ 84
C 1	1 0	30	6.3	v	25	02	50	03		20.00	75.50	, <u>0 i</u>
2	Ų	35	0.5		~		. •					
TOTAL		76										
ITEM NUMBER 3					COEFFI	CLENTS	OF CORRE	LATION		ME	ANS	
_	_		_			P8-TT	8-ST	B_TT		ST	TT	
0 PT ; 0 M	WT	N	P		PB-ST	POSII	0-3.			•		52 + <u>45</u>
_		0	.0		.00	.00	.00	.00		.00	.00	4 45
0	•	35	100.0	С	.00	.00	.00	.00	C	21.75	75.97	1 <u>13</u>
C 1	1	0	.0	•	.00	.00	.00	.00		.00	• 00	
2 Total	•	35	•••		• • •							
											_	
ITEM NUMBER 4					COEFF	ICIENTS	OF CORRE	LATION		ME	ANS	
OPTICH	WT	N	₽		PB-ST	PB#TT	8-57	B=T7		ST	TT	7.111.
	_		•0		.00	.00	.00	.00		.00	.00	614
_ 0	0	0		c	.14	14	. 55	23	C	21.83	T5.66	+ 384
Ç <u>1</u>	1	5 9	90.6	·	14	•14	24	.24		21.00	T9.00	<u> </u>
2	0	3 32	717		••••	•••						
TOTAL		JZ				•						
ITEM NUMBER 5					COEFF	ICIENTS	OF CORRE	ELATION		М	EANS	
115h namen 2							B-ST	B-TT		ST	77	100
OPTION	WT	N	P		PB-ST	PB≖TT	D=31	D-0 1 1		•		132
			.0		.00	.00	.00	.00		.00	.00	+ <u>551</u>
0	0	3 2	100.0	С	.00		.00	,00	C	21.75	T5.97	<u> </u>
C 1	1	96	.0	•	.00		.00	.00		.00	.00	
TOTAL	٧	3ž	•••									
IVIAL												



ITEM NUMBER	6					COEFFI	ICIENTS OF CORRELATION				ME	EANS	
OPT	TION	WT	N	ρ		PB-ST	P8-TT	8 - 51	B-TT		51	TT	
	o	0	0	.0		.00	.00	.00	.00		•00	• 00	- ~
	C ;	1	32	100.0	C	.00	•00	.00	.00	C	21.75	T5.9T	50
	5	Ô	0	. 0		.00	.00	.00	.00		.00	.00	+ 29
TO	TAL		35										' 27
ITEM NUMBER	7					COEFFI	CIENTS	OF CORRE	LATION		ME	EANS	
091	TION	wT	N	P		PÐ-ST	PBeTT	B-\$T	8-11		\$1	TT	
	0	0	0	.0		•00	•00	.00	•00		.00	•00	50
	Ci	1	35	100.0	C	.00	.00	.00	.00	C	21.15	T5.9T	
	Ş	Ò	0	.0		.00	.00	.00	.00		.00	• 00	T _ (
TO	TAL		35										
ITEH NUMBER	8					COEFF1	CIENTS	OF CORRE	LATION		не	EANS	
0P1	LION	WT	N	ρ		PB+ST	PB-TT	8-51	8-11		ST	TT	20
	e	0	0	.0		•00	•00	.00	.00		.00	•00	. 29
	Ci	1	31	96.9	C	03	.08	-,05	. 15	C	21.14	76.06	T ?
	Ş	Ô	1	3.1		.03	00	. 06	19		\$5.00	T3.00	-
TO	DTAL	-	35	- • •									
ITEM NUMBER	9					COEFF	CIENTS	OF CORRE	LATION		ма	EANS	•
021	TION	WT	N	P		PB+ST	PB-TT	8- \$T	8-11		51	TŤ	6
	0	0	0	.0		•00	• 00	.00	.00		•00	•00	+ 85
	Ci	1	31	96.9	C	.38	.46	. T3	. 88	¢	21.67	T6.55	
	Š	Ö	1	3.1		38	45	-,93	*1.13		16.00	, 58. 00	
TO	DTAL		35										

COEFFICIENTS OF CORRELATION

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SUMMARY ITEM STATISTICS

SUBTEST 5 ADDITION ALGORITHM

MEANS

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PAGE 32

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ITEH NUMBER 10

OPTION

C 1

TOTAL

35

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LERTAP 2.0

TEST NO 1 ACHIEVEMENT MONITORING AU

LERTÁP 2.0					SUMMA	ARY ITEM	STATIST	ICS				P.	AGE :
TEST NO 1 ACH!	IEVZMEN	0N:YC	O PILS					SUBTES	ST 5	TIGGA	ION ALGORITHM		
ITEM NUMBER 11					COEFFI	CIENTS	OF CORRE	LATION		н	EANS		
" OPTION	WT	N	P		P8-\$T	PB _# TT	8-ST	8-77		ST	TT		
0	0	0	.0		•00	.00	.00	.00		.00	•00	00	
C I	1	32	100.0	C	.00	.00	.00	100	C	21.75	T5.97	29	
2	0	0	• 0		.00	.00	*00	.00		.00	• 0 0	+ 32	
TOTAL		32										+ <u>32</u>	
ITEM NUMBER 12					COEFF1	CIENTS	OF CORRE	LATION		М	EANS		
OPTION	WT	N	P		P8 ₊ ST	P8. TT	B-ST	Batt		ST	TT		
0	0	1	3.1		16	02	44	06		20.00	TS.00	98	
¢ i	1	29	90.6	C	.32	. 26	.52	.42	Ç	21.93	76.55		
5	0	2	6.3		25	29	50	57		20.00	68.00	+ 72	
TOTAL		35											
ITEM NUMBER 13					COEFFI	CIENTS	OF CORRE	LATION		н	EANS		
OPTION	WT	N	P		P8=\$T	P8 ₊ TT	8 . ST	8=T T		ST	TT ;		
)	0	0	.0		•00	•00	.00	.00		• 00	.00	167	
C i	1	31	96.9	Ç	.48	. 92	,93	.05	C	290	T6.00	+ 426	
2	0	1	3.1		₩+4B	50.	-1,18	06		1T+00	75.00	1 600	
TOTAL		35				ł	, ,						
ITEH NUMBER 14					COEFFI	CIENTS	OF CORRE	LATION		М	EANS		
OPTION	WT	N	ρ			P⇔TT	8-57	8		ST	TT		
VF 1 1 VIII	•••	,,	•		70-31		•	•		•		727	r
0	0	0	• 0		•00	.00	.00	.00		.00	• 00	+ 2 3	•
C 1	1	30	93.8	C	.25	₩.02	,45	03	C	21.67	75.93		
2	0	5	6.3		25	.02	50	.04		20.00	76.50		
TOTAL		32				`							
TYEM NUMBER 15					COEFF1	CLENTS	OF CORRE	LATION		ME	EANS		
OPTION	WT	N	P		P8+ST	P=eTT	8#ST	8+11		ST	77	409	
		^					.00	- 0.0		- 0.0	.00	+ 383	
0 C 1	0 1	0 31	.0 96.9	c	+00 +4B	•00 •02	.93	.00 .05	Ċ	.00 21.90	76.00		
5 1	Ď	i	3.1	•	48	02	-1.18	~.06	-	17.00	75+00		
TOTAL	•	32	• • •			-10#		•••					

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LERTAP 2.0						s Uhm;	ARY ITE	4 STATIST	ICS						PAGE	3	
TEST NO 1	ДСН	JEVZM E NT	MONITO	RING AU					SUBTES	T 5	ADDIT	ION ALGORITHM					
ITEM NUMHER	16					COEFF	CIENTS	OF CORRE	LATION		М	EANS					180
Of	TION	wT	N	P		P8-ST	P8-TT	8-ST	8.11		ST	TT					
	0	0	0	, 0		.00	•00	.00	•00		.00	.00					
	Cl	ì	27		c	.33	.07	.4B	•11	c	55.00	76.19		155			
	Š	ŏ	S	15.6	•	33	07	-,49	11	•	20.40	74.80					
1	OTAL		35										+	792			
ITEM NUMBER	17					COEFFI	CLENTS	OF CORRE	LATION		м	EANS					
OF	TION	WT	N	P		PRest	P8+TT	8=ST	6-11		ST	TT					
														, ,			
	C 1	0 1	0 31	•0 96.9	С	.00 13	.00 80,-	.00 24	.00 15		.00 21.71	.00 75.87		671			
	Ş	•	1	3.1	٠	.13	.08	31	.19	•	23.09	79.00	+	176			
1	OTAL	•	35			•••	•••	•••	•••				•	1 /6	-		
ITEM NUMBER	16					COEFFI	CIENTS	OF CORRE	LATION		MĚ	:ANS					
OF	TION	WT	N	ρ		P8-S1	P8-TT	8-ST	8-11		\$ T	TT					
														334	_		
	0	0	0	. 0		.00	.00	•00	.00	_	.00	.00					
	Cl	1	30		¢	.25	.05	,45	.03	Ç	21.87	76.00	+	484	-		
1	S Jato	0	35 5	6.3		25	-,02	-,50	03		20.00	75.50			•	-	•
ITEM NUMBER	19					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS					
***************************************						400.		••	•								
OF	TION	WT	N	P		PB#ST	PB=TT	B=ST	B⇔TT		ST	TT		479	,		
	0	0	0	.0		.00	.00	.00	.00		.00	.00		•			
	Cl	1	30	93.0	Ç	.54	04	, 9 <u>6</u>	07	Ç	55.00	75.90	+	479	ľ		
Т	2 OTAL	0	35 5	6.3		54	. 04	-1,07	.07		16.00	77.00			•		
ITEM NUMBER	5.					COEFFI	CIENT#	OF CORRE	LATION		ME	ANS					
		_		_										200			
02	TION	WT	N	P		PB-57	78 411	8-5T	₩⇔TT		ST	*7		338			
	0	0	0	.0		.00	.00	.00	.00		.00	•00	+	595	•	G	477
	C i	ì	28	87,5	C	40	.23	.74	•35	C	22.07	76.57	•		-	4	77
276	5	0	4	12.5		48	23	4,77	-+36		19.50	71.75					•
A TO T	OTAL		35														

ERIC Fruit Text Provided by ERIC

TEST 10 1	ACH	JEVENENT	KONITO:	stro _{fr}						SUBTES	T 5	ADOIT	ON ALGORITHM		
ITEH NUMBE	R 21					COEFFI	CIENTS	OF	CORRE	LATION		ME	ANS		
0	PTION.	WT	N	P		P8-\$7	P8-77		B=\$7	8-17		ST	ŦŦ		6 .41
	o	0	3	9.4		44	39		-,76	68		19.33	67.33		864
	Ci	ì	55	60.0	C	.62	.63		.81	.82	C	22.50	78.95	+	658
	Š	Ó	7	21.9		39	42		55	59		20.43	70.29	•	<u> </u>
	TOTAL		35												
ITEM NUMBE	A 53					COEFFI	CIENTS	OF	CORKE	LATION		M	EANS		
0	PTION	WT	N	P		PB#\$7	PERTT		8-57	8-17		S T	TT		
	ģ	0	4	12.5		48	÷.51		77	61		19.50	66.50		59
	Ci	ĭ	51	65.6	C	.49			.63	.53	С		78.10		
	ż	ō	7	21.9	-	18	07		25	10		21.14	75.00		44
	TOTAL		35				-							+	49
ITEM NUMBE	R 23		1			COEFFI	CIENTS	0 <i>F</i>	CORRE	LATION		м	EANS		
0	PTION	NT,	. N	P		P8-S7	P8=T7		8-57	8-77		57	TT		21
	٥		4	12.5		-, 42	×.56		v.68	90		19.75	65.50		21
	2.1	/ i	56	81.3	C	.56			.80	1.05	C	55.53	78.46		33
		Ď	5	6.3	-	33	42		-,64	82		19.5^	64.50	_1.	
,	TOTAL		35	• •			·							+	33 59
ITEM 1/404BE	D 24					COEFF1	CIENTS	OF	CORRE	LATION		ME	EANS		
	. •					•		•							.
. 0	PTION	WT	N	P		P8 ⇔ \$7	P8-77		8- 57	8-77		-	TT		86
	0	0	5	15.6		33	44		49	66		20.40	6 8.80		27
	Ci	1	15	46.9	C	. 24	.54		.30	.68	C	55.50	60.07	+	0.0
	5	0	12	37.5		.00	23		.00	30		21.75	73.83		98
	70TAL		32												
		•													

LERTAP 2.0					SUMITI	HA TIE	M 5T	111211	102					PAUL 37	
TEST NO I ACH!	IEAEWEH.	T MONITO	ming au						SUBTES	Ť 6	SUBTRA	CTION ALG	MHTIRC		182
ITEM NUMBER 1					COEFF	CIENTS	OF (CORRE	LATION		не	ANS	17EM DESCRIPTION	:S	23
0PT10N	₽Ť	N	ρ		P8#ST	P8+TT	4	B= S T	Butt		ST	ŦŤ			•
0	0	0	• 0		.00	.00		.00	.00		.00	.00	07		
Ci	1	31	96.9	C	.05	.08		.09	.15	C	16.10	T6.06	87		
ž	0	1	3,1		05	08		12	19		15.00	73.00	- 5 1		
TOTAL	•	35		•									- 51		
ITEM NUMBER >	•				COEFF	CIENTS	OF (CORRE	LATION		ME	ANS			
09110N	иŤ	¥	P		P8-S1	P8-11	1	5- 51	8-11		ST	TT			
0	0	0	.0		•00	.00		.00	.00		.00	.00	79		
Сĭ	ĭ	35	100.0	c	.00	.00		.G0	.00	Ċ	16.06	75.91			
ž	ŏ	Ō	.0	•	.00	.00		.00	.00	-	.00	.00	- <u>43</u>		
JATOT	•	35	• •						•						
ITEM NUMPER ?					COEFF	CIENTS	OF	CORRE	LATION		ме	ANS			
OPTION	WT	N	P		PB-51	PB=TT	1	B-ST	8-11		ST	TT	00		
Ó	0	0	.0		.00	.00		.00	.00		.00	.00	98		
εĭ	i	36	93.8	C	03	** 08		OS	03	¢	16.03	75.93	- <u>25</u>		
ž	ŏ	ā	6.3	•	.03	.05		.06	.04		16.50	76.50			
TOT »L		35													
ITEM NUMBER 4					COEFF	CIENTS	OF I	CORRE	LATION		ме	ANS			
		A 1	P			P8-1 î		8 - \$1	8-11		SŤ	ŤŤ			
OPTION	WT	N	,		PD-31	F0=11	•		0011			_	Q15		
0	0	0	.0		.00	.00		.00	.00		.00	00	915		
C 1	1	29	90.6	C	.14	.04		.23	.07	¢	16.24	76.07	- 411		
5	0	3	9.4		14	04	,	_,25	08		14.33	75.00			
TOTAL		Jé				•									
ITEM NUMBER =			、		COEFF	CIENTS	0F	CORRE	LATION		не	ANS			
CPTION	WT	N			P8-51	PB-TT	1	0-51	8-11		ST	ŤŤ	293		
0	0	ń	.0		.00	.00		.00	.00		.00	.00			
C i	ĭ	30	93.8	c	.04	 06		.07	10	C	16.10	15.87	<u> 140</u>	Ω(3.1
2	ö	à	6.3	-	04	.06		07	.11		15.50	77.50		28	ič
DAI) TOTAL		35													
· · · · · · · · · · · · · · · · · · ·															

LERTAP 2.0					SUMMA	RY ITEM	STATIST	102				
TEST NO 1 AC	HIEVENENI	MORITO	UK. DATA					SUOTES	57· 6	SUBTRA	CTION ALG	DRITHH
ITEM NUMBER 6					COEFFI	CIENTS	OF COHRE	ELATION		ME	ANS	
OPT:ON	wT	N	P		P8+51	P8-TT	8 -\$ T	8-11		ST	TT	
0		0	• c		.00	•00	.00	.00	_	•00	.00	898
Ci		32	100.0	¢	•00	.00	.00	•00	C	16.06	75.9T	000
2 Total	0	32 0	.0		•00	•00	.00	.00		.00	•00	- 443
, 0 , 20		3.										
ITEH NUHBER 7		-			COEFFI	CIENTS	OF CORRE	LATION		HE	ANS	
OPTION	wT	N	P		P8-ST	P8-TT	B-ST	0_11		ST	TT	
0	٥	٥	.0		•00	•00	.00	.00		•00	.00	_ 53 _ 9
Ci	-	27	84.4	C	.49	.39	.73	.57	Ç	16.89	71,15	_ ~~~~
2		5	15.6		49	-,39	7 5	-,:,9		11.60	69.60	_ <u> </u>
TOTAL		35						•	•			
ITEH NUMBER - 8				÷	COEFFI	CIENTS	OF CORRE	LATION		не	ANS	
• • • • • • • • • • • • • • • • • • • •						•						
OPTION	WT	N	P		PB-ST	P8+TT	6-ST	8+11		SŤ	TT	34
0	0	0	•0		.00	.00	.00	.00		.00	• 0 0	- 1
Ci	1	29	90.6	¢	.50	.33	.82	. 55	C	16,69	76:72	- 6
Ş		3	9.4		50	33	-,67	· 56		10.00	68.67	*****
TOTAL		32										
ITEM KUHBER 9					COEFFI	CIENTS	OF CORRE	LATION		н	ANS	
					•••							
OPTICA	WT	N	P		P8-\$T	P8+TT	8-ST	8+TT		ST	TT	67
0	0	0	.0		.00	.00	.00	.00		•00	.00	- _8
C 1		29	90.6	C	.64	. 36	1.05	.60	C	I6.86	76,79	
Ž		3	9.4		64	-, 36	-1.11	~.6 3		6.33	68.00	
TOTAL		35										
ITEM NUHBER IN					COEFFI	CIENTS	OF CORRE	ELATION		ME	EANS	
aren noncen an												
OPTION	WT	N	P		P8+ST	PB+17	6-ST	8#TT		\$T	TT	70
٥	0	٥	.0		.00	.00	.00	.00		.00	•00	_ 3č
C i		27	84.4	C	. 25	,24	,37	. 36	C	16,48	76.70	- 34
į		5	15.6		25	24	-, 36	37		13.60	72.00	رکستین ا
TOTAL		12										

LERTAP (5.0		•			SUMMA	RY ITE	M STAT	r 1 S T	1 C S				
TEST NO	1 A	CHIEVEME	NT MONITO	ORING AU						SVATES	T 6	SUBTRA	CTION ALG	OR ITHM
ITEM NU	MÆER :	1				COEFF	CIENTS	OF CO	DRHE	LATION		ME	ANS	
	OPTIO	TH N	N	P		PB#ST	PB⊶TT	8-	-51	8+TT		ST	TT	
		o o	0	.0		.00	.00		.00	.00		.00	.00	53
	C	1 1	27	84.4	¢	•56	.30		, вэ	.45	С	17.00	76.89	- 211
		5 0	5	15.6		⊷. 56	*.30	-	85	46		11.00	71.00	- <u>34</u>
	TOTA	L	35											*******
ITEM KUI	MBEA 1	2				COEFFI	CIENTS	OF CO	RRE	LATION		ME	ANS	
	OPTI0	k bT	N	P		PB#ST	PB-TT	8-	•ST	8-11		ST	TT	00
		o c	•	^					00	00		.00	.00	83
		•	0	0.0		.00	.00		B7	•00 •47			T6.79	- 27
	C	•	58	87.5 12.5	C	. 56	. 31		90	-,49	•	16.89	70.25	- <u>27</u>
	TOTA	•	4	15.13		··56	31	-	70	-143		10.25	10160	
	1014	_	35											
ITEM NU	MBER)	3				COEFFI	CIENTS	OF CO	DARE	LATION		HE	ANS	
	OPTIO	N WT	N	P		PB-ST	P8#TT	8.	-5 T	B=TT		ST	TT	
		0 0	0	•0		.00	.00		.00	.00		.00	.00	07.0
	C	•	24	75.0	C	.67	.47		91	.63	C	17,58	71.87	864
			Ď	25.0	•	67	47		92	64	-	11.50	T0.25	- 225
	TOTA		35			• • • • • • • • • • • • • • • • • • • •	••••							- <u>225</u>
ITEM NU	uses :	۵				ĈOFFE1	CIENTS	OF CO	RRF	LATION		HE	ANS	
1160	. OEU 1	•				00211		٠, ٠,		B				
	0PT10	N WT	N	P		PB#\$T	PB⇒₹T	8-	•ST	8=T T		51	TŢ	~~~
		0 0	0	.0		.00	.00		.00	.00		.00	•00	774
	Ċ	1 1	24	75.0	Ċ	.60	.38		B1	.52	C	17.42	77.54	- 529
		ė o	. 8	25.0		60	38	•	B2			12.00	71.25	<u> </u>
	TOTA	Ĺ	35				-			-				
ITEM NU	MBER 1	5				COEFFI	CIENTS	OF CO	RRE	LATION		HE	ANS	
	0 PT1 0	N HT	N	P		P8-ST	P8-TT	8-	.ST	8-11		ST	TT	0=0
												_		952
		0 0	5	6.3		37	38		, T2	75		10.50	65.50	‴ оп∋
	C		24	75.0	C	.6T	•15		91	.98	C	17.58	78.92	- 073
201		5 0	6	18.8		52	·• ,54		, 75	 82		11.83	67.67	
284	TOTA	L	32											

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SUMMARY	ITEM	STAT	IST	CS

TEST NO 1 ACHIEVEMENT MONITORING AU SUBTEST & SUBTRACTION ALGORITHM THE NUMBER 16 COEFFICIENTS OF CORRELATION MEANS	
OPTION WT N P PB-ST PB-TT 8-5T B-TT ST TT	
0 0 2 6.331 4.38 4.7275 10.50 65.50	
C 1 1 20 62.5 C .74 .71 .94 .90 C 18.30 79.85 🙆	4
2 0 10 31.3565476 ~.71 12.70 T0.30 - 30	211
TOTAL 32	, _T
ITEM NUMBER 17 COEFFICIENTS OF CORRELATION MEANS	
OPTION WE N P PB+ST PB+TT B+ST B+TT ST TT	
0 0 3 9.433 -,275847 12.00 To.00 Q2	20
0 0 3 9.4 0.33 0.27 0.5847 12.00 70.00 4 2 رسم 68.6 C 0.79 0.65 1.03 0.85 C 18.14 79.09	-7
C 1 1 22 68.8 C .T9 .65 1.03 .85 C 18.14 T9.09 53	36
TOTAL 32	<u>-~</u>
TVTAL 3L	
ITEM NUMBER 18 COEFFICIENTS OF CORRELATION MEANS	
OPTION WT N P PB-ST PB-TT B-ST B-TT ST TT 63	9
A A E 1E4 45 48 48 12.45 AQ.46	-
C1 1 19 59.4 C .62 .54 .78 .66 C 18.05 79.11 - 24	-3
2 0 6 25.038235232 13.50 T3.12	_
TOTAL 32	
ITEM NUMBER 19 COEFFICIENTS OF CORRELATION MEANS	
OPTION HT N P PB-ST PB-TT B-ST B-TT ST TT	
0 0 9 26.137434957 13.76 71.11 82	.4-
0 0 9 26:137434957 13:76 11:11	
C 1 1 9 26.1 C .61 .47 .82 .63 C 19.69 81.33 — 62	. X
TOTAL	_
, , , , , , , , , , , , , , , , , , ,	
ITEM NUMBER 20 COEFFICIENTS OF CORRELATION MEANS	
OPTION HT N P PB-ST PB-TT B-ST TT QU	2
0 0 10 31.337394951 13.90 T1.50 FC	
0 0 10 31.3 •.37 •.39 •.49, •.51 13.90 11.90 • 50 C1 1 8 25.0 C .58 .52 .79 .71 C 20.00 82.37	<u> </u>
2 0 14 43.81409 0.2012 15.36 TS.21	
TOTAL 32	

TEST	NO 1	ACHJEVEM	ENT MONITO	UA BNIGO			·		\$U,8TES	T é	S SUBTRA	ČTION ALG	MF: INO	
ITEM	NUMBER :	21	1."	, •	•	COEFFI	CIENTS C	OF CORRE	LATION		ME	ANS	٠.	•
	OPTI	ON WF	N	Р		PB+\$T	PB+TT	B-ST	B⇔TT		ST .,	TT.		
		0 0	12	37.5		*2 6.	35	. ,35	 45		14.67	72.75		328
		1 1 0	14	10.8 43.8	C	.59 19	.53 •.08	.85 4.24	•77 ••10	C	20 .83 15.21	83.63. 75.36	·	169
	TOT:	AL	32	_		•	e;							
ITEM	NUMBER :	2 2		*		COEFFI	CIENTS C	of Copre	LATION		ME	AŅS		
	OPTI	DN. WT	, - N	р		'PB+\$T	PB#TT	8-\$7	8+TT_		ST "	· TT		
•	,	0 0		43.6		14	•,22	4,18	÷.2B	_	15.43	74.21		710
	TOT.	1 1 2 0		21.9 34.4		.57 35	.45 16	.80 •.45	.63. 21	Ü	20,29	82.00 74.36		469
			*			<i>•</i> *			•					-;
TTEH	NUMBER	53	•			COEFFI	CIENTS O	F CORRE	LATION		ME	ANS		
	OPTI	TW NO	, N	Р		P8#ST	PB+TT	B-\$1	Ø⇒TT	*	\$T	TT		•
•		1 1 2	16	50.0 .0 °50.0	c	••11 •00 •11	.00	14 :00 .14	••24 •00 •24	c	15,63 .00 16,50	74.62 .00 77.31		803 427
	TOT	4 <u>L</u>	35	,							-		\$	
ITEH	NUMBER :	24		•		COEFFI	CÎENTS (F CORRE	LATION		HE	ANS	-	
	OPT1	TW AC	, N	. Р.		PB#5T	PB+71	8-51	8-11		\$T	TT		/ nn
	C . TOT	0 0 1 1 2 0	0	53.1 .0 46.9	C	••10 •00 •10	•.15 .00 .15	00	10 .00 .18	С	15.71 .00 16.47	75.00 •00 77.07	-	212

	و مادي				**		,		• 66			t	PAGE 1	
•	RTAP 2.0		P	10		SUMMA	KT ITEM	STATIST	SUBTES	-				
ŦΕ	ST NO 1 ACH	IEAEWEŅ.	OTINON T	RINO AV					SUBTES	T	1 : OBJECT	11VES TEST	_	
, 11	EH NUMBER 1			ų			CIENTS	OF CORRE	, LATION		M	EANS	ITEM DESCRIPTIONS	
5 9-	0PT10N	1 NT 1	, N	P	•	, PB +S T	P8-TT	B-ST	8+11		, ST	TT	•	•
٠,	\$ 1	1	20	90.3	С	•35	11	.52	.18	С	-12.11	70.86		
	2 .		3	9.7	•	••32	•.11	54	19	-	10.33	67.00	. Numerousness	
	3	ŏ,	ŏ	40		.00	.00	.00	.00		.00	•00	Writes G-99	
	2	ď	ŏ			.00	.00	.00	. 00		•00	400		
	TOTAL	•	31	• •	F	à	•••	•••	• • •	۵				•
	_				- (⋅	•	3					•		
	EM NUMBER >	,				005061	Cleure	OF . CORRE	ATTON		M4	EANS	•	
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i	LERTAP &	2.0				SUMM	ARY ITEM	STATIST	1 CS	•			PAGE 18.	
	TEST NO	1 ACHI	EVEMEN	T MONITOR	RING AV				SUBTES	T į	OBJECT	IVES TEST		
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T	EST NO	1 ACMI	EVEHEN	T MONITO	RING AV		,		\$U8TE\$T	1	SOJECT	IVES TEST	. 4	
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T	TEK NUMI	SER 1412				COFFE	ICIENTS O	F CORRE	LATION		- M e	, Ans	e-,	189
•		OPTION	₩T	N	۰ ۴	PB-ST			. D-TT	`	\$T	TT		v ,
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LIC Worlded by ERIC		TOTAL		-31		-				· <u>-</u>				295

TEST	NO . ACH!	EVEMĒN'	T MONITO	RING XV				SUBTEST	1	OBJECT	VES TEST	
IŒEM	NUMBER 13		2		' exfet	ICIENTS O	F CODDE	TATTON	•	ė " ur	ANS	\ : ···
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,	OPTION	WT	Ņ	P	P8-57	PB-TT	8#ST	B-T7	•	\$T	TŢ	,
	1 2 C 3 4 Total	0 0 1 0	2 2 3 31	6.5. 3.2 90.3 C	07 32 .25	10 10 .14 .00	13 79 .41	20 24 .24 .00	c•	11.50 9.00 < 12.07 ,00 .	\$6.50 \$5.00 70.96	Algorithms Subtraction Algorithm

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LERTAP 2.0	, ·		SUMHA	RY TEH STAT	STICS			· ·
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						L 44-5-41		ITEM DESCRIPTIONS
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LERTAP	2.0	•	•			_ ЗЛННЯ	RY ITEM	STATIST	ICS	•		ø		PAGE 3
TEST NO	a ACH	IENEHEN	T MONITO	VK DNIR					SUBTES	т 3	ADDITE	ON FACTS	,	
TEH NU	MRER 1	٠				COEFFI	CIENTS	of CORRE	LATION			". Ans	- ITEM DESCRIPT	FIONS
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					12				•	CHATES		400177	ON FACTS		<i>u</i> .		
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۰	•	OPTION	NT	N	₽		P8+ST	P8-TT	B-\$T	8 + TT		, \$T"	TY	•			<i>'</i> .
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LERTAP 2.0					SUHMA	RY ITEM S	TATIST	cs	·		-
•	ACHIE	VEMEN	T MONITOR	ing XV	,	,		SUBTEST 3	ADDITI	ON FACTS	
item_numaer	11				COEFFI	ČIENTS OF	CORRE	LATION	ME	ÁNS	•
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LENTAP 2.0		_	• • • •		SUHHA	RY ITEM	STATIST	r CS	-				PAGE
TEST NO 1 ACH	(EVEMENT	HONITO	Rins 4V					SUBTES	т 4	SUBTRA	CTION FAC	r S [.]	
1 mm 1 1 mm 1 mm 1.	,						_	,				٠,	
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ITEM NUMBER 2					COEFFI	CIENTS (JP GUNNE	Par Tóla	•		•		_ •
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TOTAL		31											
•						, ATENIE A	AT ANDRE	LATTON		HE	AN\$		
TTEN NUMBER 3					CORFFI	CIENTS (OP CUMPE	Partella		•		-	
OPTION	wT	N	P		PB-ST	P8-TT	8-51	B-TT		\$T	· T T		-
		_					5 40				00		
0	0	0	••	_	•00		- 00-	.00			T0.46	9 - 5	•
, C 1	1	31	100+0	C	.00	.00	,00	.00	•	.00	.00	, - 3	
2	0	0	•0		.00	.00	.00	• • •			•••,		
TOTAL		31							1		1		
				-							ANE		,
ITEN NUMBER 4					COEFF	CIENTS	OF CORRE	PALION		ME	, AITH	. •	1
,	WT	N	P		PROST	PBeTT	8-57	\$ ⇔TT		ST	· TT	-	•
OPTION	70 1	14	•		F U - U -		_					,	
0	0	2	6.5		-,26	-,05	-,50	10	_	•	. 68,50	7 (
Ci	1	29	93.5	C	, 26	.06	,45	.09	C	I1.00,		7 - 4	
, a	. 0	- 0	.0		.00	.00	.00	.00		.00	., 00		
TOTAL		31	4. *			•			•	•		~	
	•		."			1						•	
ITEM NUMBER «					COEFF	CLENTS	OF CORRE	LATION		HE	ANS		
•	•		_		PB-ST	PBeTT	8-57	B-TT		57	TŤ		
OFTION	WT	. N		-		A 0 - 1 1	, , ,	,				•	_
ŷ	0	. 5	6.5		53	-, 32	-1.03	-,63		.00	58.00	4	_
Cĭ	ì	29	93.5	¢	.53	.32	, 93	, ST		11.10	T1.34	0-0	•
ž	Ŏ	Ö	• 0		.00	.00	.00	.00		• • 0 0	00		
TOTAL	-	31	•	•	•	•							
· •													•

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, 1 6 色				•			SUMMAR	Y ITEH \$	TATISTIC	;5						<u>.</u>
	ST NO 1	ACHTE	VEHENT	MCH1108	1149 WA			•		5V8TEST		SUBTRAC	T.I ON F.AGT.S		•	196
	, ,			•			<i>*</i>	IENTS OF	CORREL	AT10N		HEA	NS	•		
178	EM NUMBER	6					PB=ST	2.	8-57	Bett	*	\$ T	TT	•	•	•
	OP`	TION?	WT	N	P					.00		.00	· · •00		·····	
	.*	c 1 ·	. 0	0 - 31 0	100.0	c	.40 .00	.00 .00	.00	.00	C	10.90	T0.46	. 4 - 3	•	
9	- ``	Brat.			•							<u>*</u>	•	· · ·	;	
- .	77.1				\	-		CIENTS O	F CORREL	ATION		• ME/	LNS ,	\		
17	EH NUMEER				Ρ,		PB=ST		B-ST	8-TT		\$T	TT	•		•
	,, OP	TION	WT	CIN				•	.00	.00		. ,00	.00 *		•	· -
		, ,	0	28	.0 90.3	С	.00 .26	.00 17	.46	21	C.	11.04 '9.6T	69,93 TS.6T	11 - 2	_	
		¢ 1	ò	3 :	9. T		-,28	•17	-,48	.29				,	•	
	1	TOTAL		, 31	•			••						•		· .
							COEFF1	CLENT,S	OF CORRE	LATION		, ME	ANS			
11	TEM NUMBE	R P				_		*###T,T	8-51	8-TT	•	_ ST	TT.			•
	01	PT 1 0N	WT	N	•	-		•	-,8T	-,13		9.00	68.40			,
		. 0	٠ ٥	5 23	16.1 14.2	c	56 .T\$	09 .21	1.05	,26	C	11.57 9.00	T1.T4 64.33	13 - 8		
	,	5 C J	1	3	9,7		43	20	₩,74	-,34		,,,,	- 1 1 1		•	• •
		TOTAL		31		•		•,	•			•		-		•
		•					COEFF	ICIENTS	OF.CORRE	ELATION		- M	EANS	•		
I	TEH NUMBE	A S			_		*B-\$T		8-57			\$7	TT.	,		•
	0	PT10N	WT	N	P			,	-1.02	-, 66		0,50	59.50	12 - 7		
		0	0	4 25	12.9		~.6 4	*	1.08	.60	С	11.44	72.60	44 - 7		•
	. •	C 1	0	5,		,	35		67	23	•	••••				
		TOTAL		31					•			_		3		
						•	DOEFF	ICIENTS	OF CORR	ELAT ION	ŀ	, H	EANS			-
1	ITEH NUMBI				_		. pa=\$1		0=57			\$1	TT		٠,	~ .
	• •	D#T I ON	WT	, N				_	.		'n	4.50	68.50	16 - 9		_
•		. •	0	5		5 9 (26 4	505 5 -3T	50 .94 -1.00		, C	11.31	T2.15 57.33	15 -, 9	•	300
່ ວ	308	C.1	Ú	26 3	, 9 ₀ `	Ť	5		-1.00) -, 7;	3 .	*. 33		*		000
)	,00	TOTAL		31				•			,	•				-
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<i>-</i> ·	PEULTAD S	. د		•		SUMMA	RY ITEM	STATIST	cs			-,!	<u>P</u>
•	TEST NO	1 ACH	EVEMENT	MONITOR	10 AV				SUBTEST 4	SUBTRA	CTION FACT	S , * 194	
	1201311	1					٠.	•					. •
	ITEM NUM	BER 11			•	COEFF1	CIENTS	OF CORRE	ATION.	. HE	ANS		
	·	OPTION	WT	N	<u>-</u>	P8#ST	P8-TT	8-57	-8-17	sr	71	٠.	•
· ; - >	•	e ĵ	° 0	0. 30	96.8 C	•00 •11	.00 .13	-158 -55 00	00' .26 C	10.93 10.00	.00 70.73	102	
	.;	TATOT 1	• •	31	-3.12		-,13		-,33	·			. 1
_	ITEM NUM	IBER <u>- 13</u>		<u></u>		COEFFI	CIENTS	of . corre	LATION	МЕ	ANS		
		. OPTIČN	μT	N	- P	P8-57	PB-TT	B=\$T	9-77	<u>'</u>			
	•	O C 1 2 TOJAL	0° 1 0	24 5 31	. 6.5 . 77.4 16.1	26 66 58	.12 07 .00	-,50 ,91 -,87	.23 10 C	9.50 11.42 9.00	75.00 70.08 70.60	16 - 7	. •

LERTAP	2.0		•			SUMMA	RY ITEM	STATIST	íca	•		•		PAGE	31
TEST_N	O 1 ACHI	EVEHEN	t—MON:IOR	ING_AV	·—			•	SUBTES	T 5	AOOITI	ON ALGORITH	IN -		••
ITEM N	•					COEFFI	CIENTS (De correi	LATION	•	, ME	ANS	ITEM DESC	Riptions	•
	OPTION	₩T	N	ρ		P8-\$1	P8-IT	B-\$T	8-11		\$7	TŤ \		•	,
		0	o	.6.					.00		.00	:00	,-,-		
	C 1	i	30	.96.8	C	.06	.37	-11		C -	19,3T	T1+1T	-	53	
•	2	0	, i	3,2.		06	-, 3T	-,14	90		18.00	50.00	+	53 34	1
• •	TOTAL		31 .				;				· :	,			
ITEM N	UNBER >		-			COEFFI	CIENTS (OF CORRE	LATION		NE	ANS 4			
	,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	WT	- N	P		P8-\$T	PO-TY	B-\$T	B-TT	_	3. T	111			
·- · - · - ·	٥	c	0	.0		.00	.00	.00	.00	•	.00	00		30 21	
-	Cı	1	31	100.0	C	800	• 00	.00	.00	C	19,32	T0.48	<u> </u>	21	
	₹ Total	C	-0 31	•¢		• 00	+00	.00	.00		.00	*00	^ -	<u> </u>	
	,,,,,,					_	•				٠ ,۰				•
ITEM N	DMBER 3	-	•			CŐEFFI	CIENTS (OF CORRE	LATION	•	Ņŧ	ANS	• •	_	•
	ORTION	WT	N	P		PB-ST	PB-TT	8-\$T	8-11		ST	`\TT		25	•
_	0	0	0	•0			+00	.00	•00		.00	+00 T0+T9		73	
٩	C 1	1	5 5 9	93,5 6,5	C	* 11] *11			.20 23	C	19.45 . 17.50	66.00	4	62	
٧٠	T OTAL	. •	31	, v ,s			****					- •			
			· ·	1		• :						•		•	
ITEM Ņ	iumper 4					COEFF	CIENTS	OF CORRE	LATION		, MI	EANS		_ '	•
	OPTION	WT	. N	P		P8+ST	PB=TT	8-\$1	8-TT		\$1			·_ :	
	0,	٥	, 0	.0		.00	.00	.00	.00		.00	100		503 293	
•	C i	. 1	29		¢	.29	.00	57	14 15	C	19.66	T0.69	<u></u> '+ 2	293	
	2 TOTAL	0	2 31	6.5		-+59	-, 08	*			. 14000		•		•
	, , , , ,	,				,	•	• •		- 1				7	
ITEM N	IUMBER *					00EFF	CIENTS	OF CORRE	LATION		Ħ	EANS	▼.		
, , ,	- OPTION	KI	N	P		P8-5T	₽8, ≃11	8-57	8-77		\$7	TŢ		265	•
	. •0	0	0	40		.00	.00	- ,00	.00		.00.	.00	4	265 314	
040	, £ 1	1	30	96,8	C	, .52 52	.31 31	1.01	.61 .w.TT	·.c	19.73	T1.0T	• • •	<u> </u>	•
312	2 TOTAL	0	31 -2	3,2		-+04	-,4,		(· · ·	٠.		~ 7			٠
	-								•	,	•	-			

	NP 2.0	-	•	•		;·· \$Uhma	ÂY ITEM	STAT1ST	ıçs	•		•		•	PA OE
TEST	NO. 1 ACHI	EVENENT	HON1TO	RINO AV		• .			SÜBTES	T 5	ADDITI	ON ÆLGORI	тни		`.
ITEN	NUMBER, A	•		1		COEFFI	CIENTS	of corre	LATIÒN		ME	ANS .			
•	OPTICH	WT	N	/. p		#8+ST	PB-TT	B-\$1	8=TT		ST,				,
u,	C 1 2 Total	0 1 2	30 1 31	96.8 3.2	c	••25 •25 •00	.00 .31 31	1.01	.00 .61 -,7T	c	+00 19.T3 T+00	71.07 53.00		+ <u>3</u> 32 + <u>2</u> 46	
ITEK	NUMBER 7			•		COEFFI	CIENTS	OF CORRÉ	LATION		не	ANS.		- •	
•	OPTION	WY	N.	•		P8-51	PB-TT	B#\$T	B=TT		ST	TT			
. •	, 0	0 1 0	26 3 •31	90.3	ć	.00 • .18 18	.00	.00 .29 ~.30	.00 .15 16	Ċ	.00 19.57 17.00	.00 TQ.T9 6T.6T		+ 56	
4	TOTAL		.]				. , .	•	•			-		•	
ITEM	NUMBER A					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		1	
٠ ــ	OPTION	WT	, N	. 🤜 🏲		Pa-st	Pa-pt	B-ST	0- TT		ș și	TITE		68	
/ }	C 1 C 1 C 1 C 1 C 1 C 1 C 1 C 1 C 1 C 1	0 - 1 - 0 -	29 1 31	3,2 93,5 3,2		35 .63 .52	-,21 ,37 ,-,31	1,11 -1,28)50 .66 TT	`.c	11.00 20.03 T.00	59.00 71.48 53.00		+ 8	-
ITEM	NUMBER 0	•	•			COEFFI	CIENTS	OF CORRE	LATION :		- ME	ANS_			
	ôPTION	WT	N	P	•	-	PB-TT	, BeST	· •TT		S T	TT		79]
•	0 C 1' 2"	0. 1 0	29 2 31	93.5 6.5	C	.00 .48 48	.00 .30 .30	. 00 .84 -,93	.00 .52 58		19,86 11,80	11.20 11.20 59.00		+	,
(J. ÝEH	NUMBER 10	,	•		•	coeff:	CIENTS	OF CORRE	LATION		HE	ANS V	•	•	•
. /	OPTION	WT	, N	•	-	P8-\$T	P8-TT	0-ST	8-TT		\$1	ŤT	•	. 29	r í
•	0 C 1 2 Total	0 1 0	0 30 1	96.8	c	.00 .21 21	.00 .37 ~.37	00 .52 -,65	.00 .71 90	*c	+00 19.53 13.00 +	00. T1.1T 50.00		+ 64	<u></u>

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LERTAP 2.0				5UMM.	ARY ITEM	STATI ST	ics				, P <i>i</i>	4GE 33
TEST NO 1 ÁCH	IEVEME	NT MONITOR	RING AV		•		SUBTES	5 7 5	#100A	ION ALGORITH	м	•
ITEM NUMBER 11		-		COEFF	ICIENT'S	OF CORRE	LATION	**	M	ANS	•	•
OPT 101	WT	N ·	P	Pa∽st	PB+TT	8=\$T	B-TT		51	TT .		
•	C C	C	.0	.00	.00	.00	.00		.00	00	. 1	
cí	· i	23	93,5 0		'SS	.20	.38	C	19,45	71.07	'جے زا	•
	ō	ž	6.5	11	**55	**55	43	,	17.50	62.00	45	
TOTAL	•	31	***			••-	*				+ 28	
•			4	•		~.	,		•	•	+ 28	
		.			٠,				```		•	
ITEM NUMBER 12		₽ -	• •	COEFF	ICIENYS (OF CORRE	LATION		/ . MI	AN>		
. OPT10N	WT	1:	э Р	P8#ST	PB-TT	8-51	8 - 11		ST	TT	•	٠.
•						`				* #=	-	•
	Ō	1	, 3.5	35		86	*.5 0	_	11.00	59.00	77 .	
· C 1	1	53.	74.2 10		.24	.50	.32	Ü	20.26	71.91		
. 2	Õ	, 7 31	55.4	24	16.	. +,33.	-,23		17.43	67.43·	+ 95	,
TOTAL		31					,	٠			***************************************	
CTOM NUMBER 19				***	ICIENTS (Ne andre	L ÁT TOM		Ma	ANS		•
ITEM NUMBER 13				CUEFF.	TOTENIA .	OF CURNE	FW. 1014		m	MUS	•	
-OPTION	HT	N	P	P8#\$T	PB-TT	8-ST	B⇔™T	•	, SŤ	TT		
	_	ъ.					41.4			E	426	
- 0	0	1	3.2	31	21,	76	*.50	_	12.00	59.00		• •
C 1	1	\$3	74.2		,55	1.10	.74	C	21.39	73.78	+ 458	
2	0	7	22.6	72	49	w1.00	· *.68		13,57	61.29		•
TOTAL		31 .									•	
					•					,		••
ITEM NUMBER 14		•		COEFF	ICIENTS (OF CORRE	LATION		ME	ANS	•,	
OPTION	WT	ĥ	P	P8-\$T	PBéTT	B-ST	8+TT	,	ST	TT °	239	•
	•										457	
9	Û	1	3.2	31	-,21	76	50	_	12.00	59.00	+ 653	,
C 1	1	21	67.7 0	•	.49	.98	. 64	С		73.95		•
2	_O	9	29.0	66	43	87	57		14.89	, 63.67	•	
TOTAL		31			•	4	٠		-			
ITEM NUMBER 15	•	_			ICIEN7S (he endbe	LATION		Ma	ANS		
TIEM NUMBER 15		-		QUEFF.	inteula (~ ~~	1 ON		en e		1.1 6	
- OPTION	,WT	N	P	P#=ST	P8-71	8-\$T	8-TT-	•	\$T	· TT	115	
		•	4 +			- 65	_ 54		11 60	59.00	+ <u>875</u>	
	0	5	6.5	48	3 0	-,93	58 .76	•	11.50 21.29	73.50	· · <u>• · · ·</u>	
316	1	24 5	77.4 C		•55 .	1,17	64	·		60.60		
ΣΤΩ	C	_	16.1	64	-,42	-, -,			13,00	-0. #0		317
TOTAL	•	. 31										0 T 1

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45.44	Ato	•

SUMMARY ITEM STATISTICS

PAGE 34

CERTAP EAU			_		344		. • • • • • • • • • • • • • • • • • • •	•		•			. *
TEST NO 1 4CH	EVEHENT	HONITOR	VK Enti				÷	SUBTES	T 5	ADGITI	ON ALGORITHM.		
		•.				4					•		1
TTEM NUMBER 16		-	•		COEFFI	CIENTS	OF .CORRE	LATION	-	ME	ANS		·-
OPTION	, WT	· N	P		F3-57	PB-TT	8-51	B-TT		\$1	g-₹₹ g	,	
0		1	3,2		31	21	76	50		12.00	59.00	•	
C 1	1	27	87.1	C	.45	.38	.70	•58	C	20.07	71.96	174	-
2	ō	3'	9,7		-,33	30	-,57	. 53		15.00	61.00		
TOTAL	•	31					•					·+ <u>642</u> ;	
. ITEM MUMBER 17					OOEFFI	CIENTS	OF CORRE	LATION		HE	ANS		
OPTION	WT	N	p			P8-TT	8-57	B-TT		\$1	17		•
. UP110 N		.,	•		FB-01	. 54,1	-			-		_	
. 0	0	1	3.2		••3I	21	⇔, 76	50	_		59. 00	583	3
. C 1	1	59		C	.60	• 37	1.05	• 66	C		71.48		•
- 2	0	1 *	3.2		· *• 52	31	*I.58	 77		T.03	53. 00,	+ 24!	
TOTAL		31									•		
		,			CAFFEI	CIRNTS	OF CORRE	LATION	,	. MF	ANS		
ITEM NUMBER 18					COEFFI	CIENTS	ot course						,
- OPTION	WT	, N	P		P8-ST	*PB+TT	8- \$7	ë⇒TT		\$T	τŤ		
	•	1	3.2		31	21	+.76	₩.50		12.00	59:00	1.86	
?	0	27	87.1	6	.47	,35	,73		Ċ	20,11	T1.85	4.570	•
C 1	1	3	9.7	٧	35	-,27	0.61		7,	14.67	62.00	+ 570	
~ 2 Total	0	31	761			-,	•,••	• • •		• • • • •	- 1		
1417		3.				-					1		-
ITEM NUMBER 19					COEFFI	CIENTS	OF CORRE	LATION'		ME	ANS	•	•
							B#ST	B - 7₹		\$T	TT		
OPTION	WT	N	p		P8-31	PB-17	B#3 i	Ø+1+		31	• • • • • • • • • • • • • • • • • • • •	. 263	* .*
_	_	•	3.2		18	08	45	20		15.00	66.00		
0	0	1	74.2	c	16	.45	.91		С	21.04	73.17	+ <u>459</u>	•
C 1	1	2 3 7	82.6	U	-,63	43	-,66	60	•	14.29	62,29	·	
2	0	31	82.0		-142	-,43	4 - 4			2	,	•	•
TOTAL		31	•										
ITEM NUMBER 20					COEFFI	ÇIENTS	OF CORRE	LATION		, ME	ANS		
'. OPTION	WT	N	P		PB-ST	P8+TT.	8 -\$ T.	B-77		\$ Ţ	7 T	359	
J. 7.						•							
. 0	0	4	12.9		 07	09	-,12	15	Ň	10,50	68.00	+ 265	
C 1	1	21	67.7	C	.66	,51	.86		C	51.29	74.05		
2	0 .	6	19.4		₩ ₁ 72.	58	-1.03	75		13.00	59.67	•	
TOTAL		31						•				•	•
											. '		

LERTAP 2.0					SUMMA	IRY ITEM	2191191	102				•		-
TEST NO 1 AC	HIEVEMENT	t MONITO	RING AV					SUBTES	T 5	ADDIT	ON ALGORITHM	i .	, .	
ITEH NUMBER 21					CORFFI	CIENTS	OF CORRE	LATION		ME	ANS		•	
OPT104	ĦT	N	P		P8-ST	PBett	€8# \$T	B=TT		ST	TT			
0	٥	4	12.9		34	58·	-,54	45		15,50	63.00		767	ŧ/
' cj	ĭ	14	45.2	C		.86	.80	.82	С	22.36	77.06	΄.	11 21	•
á	ŏ	13	41.9	• .	41	47	+.52	÷.59		17.23	64.85	7	434	
TOTAL	•	31				• * * *	•	2						
ITEM NUMBER 22				_ <u></u>	<u>≤</u> Co≅FF1	CIENT\$	OFCORRE	LATION'	-	··M	ANS			
OPTION		 N	p .			PS-TT	8-51	8+11		, ST	TT /			
•			•			,	•							
0	0	Ť	22,6		36	30	50	41		16.43	64.86		19	
· C 3	1	13	41.9	C	.69	.68	68	. 86	C	22.85	78.62		-	
, 5	۰ ٥	11	35.5		40	44	51	56		17.00	64.45		64	
TOTAL		31						,				+	<u>58</u>	
ITEM NUMBER 20		•			COEFFI	CIENTS	OF CORRE	LATION		ME	ANS -			
. OPTION	W7	N	P		P8-\$T	P8+TT	8-51	8-11		s ST	TT		/ =	
, ò	٥	8	25.8		51	41	68	56		15.63	63.37	<i>*</i>	67	
C 1	ĭ	19	61.3	C	173	.60	.93	.76		21.84			25	
ž	ŏ	- 4	12.9	-	41	•.33	+,65	52		14.75	61.75			
TOTAL	•	31				•						7	22	
ITEM NUMBER 24					COEFFI	CIENTS	OF CORRE	LATION		H	ANS		•	
OPT10N	WT	N	p		P8+ST	PB-TT	3# S T	8+11	•	ST	ŤŤ		58	
•											4		•	
0	0	10	32.3	_	-, 4B	-,46	63			16.30	63.70	` '	98	
, C 1	1	11	35.5	C	.66	,65	.85	. 64	Ç	23.16	79.45	+	85	
2	0 -	10	25.3		20	21	-,25	27		10,10	67.40	•	00	
TOTAL		31												

LERIAP K.U			•		2000	INT TIEM	2 INITS	103		\		Ε,
TEST NO 1 ACM	IEAEHEV.	T HCNITCE	NZ ONES					SUBTES	iT 6	SUBTRA	CTION ALG	ORITHM
ITEH NUMBER 1	• <i>1</i>	,			COEFF	CLENTS	OF CORRE	LATION		ME	ANS	ITEM DESCRIPTIONS
OPTION	WT	N.	P		P8+ST	PB-TT	B-ST	8-77		ST	रा	
,	0	o,	.0	·		.00	.00	+00	_	•00	•00	/7
, ¢ <u>1</u>	1	29	93.5	¢	+34	, 24	,60	- 43	¢	14,38	71,14	67
TOTAL	U	2 31	6.5	•	34	-+24	66	48		7.00	61.00	42
								,	-			-
ITEH NUMBER P	-		٠		COEFF	CLENTS	OF CORRE	LATION		ME	ANS	
OPTION	WT	· N	ρ		PB+ST	PB-TT	- Bist	* B=TT		\$T -	TT.	
	0	0,,	.0		.00	.00	.00	.00		.00	+00	56 - <u>25</u>
Ci	1	30	96.8	¢,		31	,92		Ç,		T1+1T	_ 25
2 Total	0	1 31	3+5		-+48	-,3T	-1.1 T	90		.00	50,00	20
4> .		,3 ,			,							•.~
ITEM NUMBER 3						CIENTS	OF CORRE	LATION		M	(ANS	
OPTION	WT	, N	P		P8+ST	PB-TT	. G-ST	8 - TT	-	\$T	TT	
. 0	0	o °	.0		.00	/ .00	.00	.60		.00	.00	88
C i	ĭ	28	90.3	Ç.		.18	.49	.29	¢	14,43	71.0T	- 76
ž.	0	3	9.7		-`∙30	18	-,52	-+30		9.00	65.00	
TOTAL		, 31		•						, •	•	
ITEM NUMBER 4					ÇOEFFI	CIENTS	OF CORRE	LATION	,	ME	ANS	•
OPTION	WT	ν,	P		PB-ST		8'+ST	6-11		\$T	, тт	
		-						.00			00	698
C 1	0	2 \$	90.3	c	.00	.00 .53	.00 1.00	.86	c	.00 14.96	72.25	
Ž	i	Ť	9.7	•	61	53	-1.05	91	•	4.00	84.00	- <u>457</u>
TOTAL		31	_				·					
ITEM.NUMBER «					COEFF	CIFNTS	OF CORRE	LATION		ME	ANS	
_			_			•		_		•		
OPTION	WT	N	P		P8×ST	₽8 ⊕77	8-51	6 =††		. \$T.	TT	482
. 0	0	1	3.2	_	-+3T	+,37	92	90	٠,	3,00	50.00	- 231
Çj	1	28 2	90.3 6.5	C	.53 37	.56	.86 -471	.92 80	¢	14,82	T2,36 5 4,50	
Z TOTAL	U	31	9+0		-+31	-4-1	-4.1	-100		-100	,	

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LERTAP 2		•	,			ZUMMAI	KT 4167			' ' '		·≱≕~				1	
VA		CHIZVEMENT	MONITOR	:ua ³⁰ 7	-					SUBTES	T 6-		CTION ALGORIT	HM	-	~ 1	• (
TEST NO	, ,,	CHIEACHEIA	***********					1		•	1	• • •	•		-	- /	
		•	, , ,		•		_	:_				- M#	ANS .	,			1
ITEM NUM	18ER 🖟	6	3			COEFFI	CIENTS	QF	CORRE	ATION		m#	AND .	•			
· •	,		, · .	_		PB-ST	PB+TT		BuST	8-11	ţ.	\$T	TT ··				
•	OPTIO	N HT	. N	-		- D-9 (PD-11					• •		•			
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			4				CTENTS	OF	CORRE	LATION'	•	. ME	ANS	٠,		^⊁	•
ITEM NU	M3E R	7				CAELLI	OTEM14	٧,		4		•		?			•
	OPTIO	N WT	Ν.	ρ		PB#ST	P8-TT		8 -\$T	8-17		ST	TT .				
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	į	0. 0.	1	3,2		₩,37	∵∸.37		+,92	₩.90 .46	٠,	3.00	50.00 T2.52		32		
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STEM NU	**E					COEFFI	CIENTS	0#	CORRE	LATION		ME	ANS "				•
TIEM NO.	(35.14	-					•		-	B <u>-</u> TT	.0.	· ST	ŢŢ	•			
	OPTT(DN WT	N	. P		P8-ST	PB#TT		8-57	8011	• • •	. 41	~		74	•	
		_	•	• •		+.37	37		92	-4.90	•	3.00	50.00				
	_	0	*	3.2 77.4	С	.73	,54		1,01	.78	C	16.00	73,58	-	8.		
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STEM NU	MBER	9 1				CORPE	CTENIS		COMME				•	٠,		•	
٠,	OPTI	ON FUT	N	P	•	P8-57	P8-11	•	B-\$7	# ←17		ST	71	,	61	•	
	QPII	Ala Lui	**	-						•			. Ea .aa		_	•	
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ITEM NU	IMAFR	1.,				COEFF	ICIENTS	0	CURRE	LATION		. L M	EANS		44.04		,
1		•	. 4						8-57	B-TT		· ST	7T.	: .	~		
	OPTI	ON WT	N	P		PB#ST	P8=11	r	8491	001		. •			72	. •-	
				7.4	_	· - ,37	-, 31	,	92	·90		. 3.00:	50.00			20	
	_	0 0	1 24	3.2. 77.4		.61			.85	1 .61	0	15.67	72.92	-	28	₹ 4	202
324	C	1 7-	6	19.4	-	-,48	-,30		69	44		8,67	64.3T			`	325
ひたゴ	707	•	31	4.4.		•	•	٠	•				•	٠,	•	-	,
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LERT	AP 2.0 .	•			٠.	SUMMA	ARY ITE	TELTATE P	105			•		,	PAGE	39
7251	T NO 1 ACH	IEVEHEN	T MONITO	RING 'ŜV		ı		-	SPOTEST	T 6	SUBTRA	GTION ALE	ORITHM	• •		•
	·						1									,
ITER	NUMBER 11	•				COEFF	IC:ENTS	OF CORRE	LATION .		ME	ANS	•	•	•	
	OPTION	WT	Ň	, P		Pa-st	P8-TT	8-ST	В⊷тт		, \$T	TT				
	0	٥	. 5	6.5		34	28	66	SS		7.00	59.50		83		
	Ci	i	24	77.4	C	, 63	.46	87	•	C -	15.71	73.04:		. /		•
•	5	0	5	16.1		49	, =.34	-,73	51		.00	62.60		6-1		<u></u>
	 TO∓AL		31	- , - -	-			-				•				
	. MINAGO / LA		1			-								·	· #	
1158	NUMBER ' 12	4		•	•	CORPE	ICIENTS	OF CORRE	PWITON	٠.	, ME	AN9	• `	•		 -
	. OPTION	WT		P		PB-ST	. PB-TT	B⇒ST	Ð⇒TT		ST	TT		ar		
-	, 0	٥	2	6.5	ζ,	34	20	66	55	•	7.00	59.50	₩ .	- 85		
	c i	1	21	67.7	C	.58	.40	~ .76	• 52		16.05	73,29		- 59	. /	•
	-`2·	0	•	25.6		-+43	27	59	36		10.00	65,87	_			΄.
	TOTAL		31				•	- \		•	•	•.			,	,
				Ţ.)			•		•	•		
ITEH	NUMBER 13		سنة	 -		COEFFI	CLENTS	OF CORRE	LATION		ME	ANS .		_	-	•
•	OPT 10N	WT	N '	/ P		P8-61	PB-7T	8-57	B =TT		. ST ,	71.	,	·	*	
	ا ر ا	. 6	3	9.7		32	~,36	56	62		8,67	59,33	•	256	•	•
	ci	ĭ	17	54.0	C	.71	68	90	.86	C	17.35	` T6.82	_	138		
•	. 2	ō	11	35.5		54	-,49	70.	-,63	•	10.00	63.73		700	1	
•	TOTAL		31 🥋			-								,	, *	•
	NUMBER 14	•				****		AF .ABDE			L.e	. a a d d	_			•
TIEM	NOMBER 14	·			1	. CORFFI	ICIENTS	OF CORRE	FWITON		HE	,ena,	•			
	OPTION	WT	N	P		PB-ST	PB=TT	B-ST	Ð⇔†T		S7	TT		,388	٠.	
	0	٥	2	4.9		34	28	-, 66	55 .		7.00	59.50	_	- 269	. '	
	C 7	1	17	54.0	C	16	.79	.96	1.00	C	17.59	T7.82		201		
٠.	5	0 ,	18	1 38.T		61	67	, maTT	85	. 5	.9.83	61,92		• •		
	TOTAL	_	31			×	, 1	•		٠		`	•			
		•.		•				OF CORRE			L/G		•	•	•	
TIEM	NUMBER 15					COEFFI	CIENTS	OF CURRE				ANS .		0.6		
•	- OPTION	W,T	N	P		PB=ST	P8-TT	8 _F ST	8 - ȚT		\$T	~ ₹₹		913		
1	٥	ò	3	9.7		32	+.23	· •. 56	40		8.67	. 63.33	-	- 408		
	Ć i	i	14	45.2	C	7.75	66	.94	. 62	C	18,29	T7.86		• ———		:
	2	0	14	45.2		.i.56	-, 52	. TO	65		10.64	64.64	-			
	TOTAL "	, 1	31 .	•	1	•			•	•						

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PAGE SUMMARY ITEM STATISTICS" LERTAP'2.0 SUBTEST 6 SUBTRACTION ALGORITHM TEST NO 1 ACMIEVEMENT MONITORING AV *COEFFICIENTS OF CORRELATION ITEM NUMBER 16 TT \$T 8-TT OPTION . 9.00 60.00 -.58 -,52 9.7 76.17 17.22 .93 .03 58.1 C 63.40 9.40 - - .76 -.62 35.3 10 TOTAL 31 MEANS COEFFICIENTS OF CORRELATION ITEM NUMBER 17 TT ST PB-ST PB-TT MOITGO 60.80 10.40 -:29 16.1 78.71 17.79 .92 C .83 45.2 C 64.92 10.63 -.55 38.7 12 31 JATOTAL MEANS COEFFICIENTS OF CORRELATION ITEM NUMBER 18 TT ST P8-57 P8-77 726 ORTION 63.00 10.67 -,5243 -,36 -.30 19.4 17.59 77.76 .99 54.8 C 60.62 8.50 , -.61 -.60 -.57 25,0. TOTAL ; 31 MEANS COEFFICIENTS OF CORRELATION ITEM NUMBER 19 T T• ST 8-57 P8-\$T P8-77 623 OPTION 63.22 9.89 29.0 80.63 19.50 .74 .72 C .50 19.4 70.69 14.06 CI .02 .03 .03 51.6 TOTAL COEFFICIENTS OF CORRELATION TEM NUMBER 20 872 P8-31 P8-TT OPTION 586 65,43 12.00 -. 57 · -.41 -,45 ...32 62.25 45.2 20.75 .79 .71

.49

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12.9 C

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TOTAL

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LEATA	IP 2.0					SUHMA	IRY ITEM	STATIST	I CS				PAI مـ
TEST	· •	EVENEN	T MONITOR	VX ⁽ DHIS	, .		ø		SUBTES	iT 6	ŞUBTRA	CTION ALGOR	TITHM'
ITEM	NUMBER 21					COEFFI	GIENTS C	F CORRE	LATION		HE	ANS	
	OPTION	WT	N	, b		PB-ST	P8+TT '	8-51	B+11		ST	TT	
		0	-15	48.4		26	35	33	44		12.47	66.80	436
	Ci	1	4	15.9	C.	.51	. 45	.82	• T2	Gt >	21.00	02.50	—
•	ž	ō	15	38.T		09	. 65	11	.06		13,33	T1.08	- 337
	TOTAL		31 '			, .	•	•			- •		•
	•	r				,		;		•			
TTEH	NUMBER 22					COEFFI	CIENTS (F CORRE	LATION	•	ME	ANS	
	OPTION	WT	N	P	•	PB=ST	PB⇔Tች [*]	8-57	5-11		ST	TT	,
	` 0	0	16	51.6		20	31	- , 25	39		12.07	67,37	720
	CI	1	4	12.9	¢	. 35	.32	.56	.51	Ç	18.75	T9.00	730
	Ş	0	11	35.5	,	* ••04	.10	05	•13		13,64	T1.91	· 438
	TOTAL		31	•							••`		730
	,			. •									,
ILEN	NUMBER 23		14.		•	COEFFI	CIENTS (P CONME	PALTON		, 48	ENR.	
	OPTION	WT	N ·	P		PB=ST	PB-TT	B-ST	8-11		ST	TT	
	0	0	17	54.6		14	•.24	17	•.31		13,24	68,24	50年
	. 6.3	1	1	3,2	¢	•35	. 35	. 85	.85	Ç	24,00	90.00	- 227
		0	13	41.9		*0%	,12	≥ 02	.15		14,00	71.92	221
	TOTAL		31										
·. TTSH	NUMBER 24					COEFFI	CIENTS C	F CORRE	LATION		HE	EANS	• •
,				_		••••			•		-	•	•
	OPTION	WT	. N	P		P8 ⇒ \$1	PB+TT	B-ST	8 ⇔T7		\$ †	ŤŤ	. 600
	0	0	17	54.8	,	14	24	1T	31		13,24	68.24	
	· ci	i	. 5	6, 5	C	.37	.43	.13	.03	C	21.50	87.00	<u> - 481</u>
	. 2	ō	15	38,1	7	05	.03	06	.04		13.58	70.92	
	TOTAL	•	31	= 1, •		•				•	-	•	
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LERTAP 2					,	SUMMA	RY ITE	M STÄTIST	ICS				PAGE 16
TEST NO	1 ACHI	EVEHENT	MONITO	RINO AW		•			SUBTES) T	1 OBJECT	IVES TEST	
ITEM NUM	BER 1	•	•			COSFFI	CIENTS	OF CORRE	LATION		ME	ANS	THINK DEALDY DISTANCE
	OPTION	WT	N	P		P&-ST	PB-TT	8 - \$T	8-TT		ST	TF	ITEM DESCRIPTIONS
,	* 1	0	0	.0		•00	.00	.00	•00		•00	•00	
/	; 2	0	a	6.5		07	*15	14	.24		11.50	71.00	Numerousness
	C 3	1	29	93.5	C,	# 0 T	12	.13	W.22	C	12.00	72,62	Writes 0-99
	- 4	0	0	• 0	-	400	.00	• 00	.00	•	400	• 00	•
,	TOTAL -	-	31			•		·					
ITEN NUM	AER -2	•			-	COEFFI	CIENTS	OF CORRE	LATION		, ·	ANS	
	* *										8		•
**	OPT ION	ψT	N	P		PB-ST	PB-TT	B⇔ST	, B⊕TT		\$T	· 11	:
	C 1	. 1	- 30	96.8	C	.43	. 29	. 83	.56	C	12.10	73.37	
	2	ò	0	.0		•00	.00	.00	.00		r 00	.00	Numerousness
•	3	0	1	3.2		43	-, 29	-1.05	w.71		8.00	59.00	Represents 0-99
	. 4	0	0	.0		.00	• 0 0.		.00		.00	•00	
	TOTAL		31										
ITEH KUM	BER 3					COEFFI	CIENTS	OF CORRE	LATION		ME	ANS	• •
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	OPTION	WT.	 N	P		PB -\$ T	PB+TT	B ⇒ \$T	8-TT		\$1	. тт	•.
	V. / VIII			•		, , ,	,					•	•
	1	, O	0 .	• 0		•00	\$00	.00	.00		~ `•00	•00	
	2	Ô	0	.0		•00	.00	•00	•00		•00	•00	Problem Solving (A)
	C 3-	1	31	100.0	C	+00	•00	.00	.00	C	11.9T	72,90	Add-part part whole 11-15
	4	0	0 ,	.0		•00	00	.00	•00		.00	+00	part part whose 11 12
	TOTAL		31								-		
ITEN NUM	BER 4			Þ		ChEFF1	CIENTS	OF CORRE	LATION		ME	ANS	
TIEN NON				_									•
•	OPTION	WT	N	P		P8#\$T	P8-17	Ð≠ST	BwTT		\$ T	TT	
	1	0	6	19.4		71	 37.	-1.03	w.\$3		9,50	66,33	
	, C 2	1	24	TT+4	C	.72	, 43	, 99		C	12.62	T4+92	Problem Solving (A)
	3	9	0	• 0		• 0 0	400	.00	.00		.00		Subt-simple separating 0-99
	4	0	1	1 3.2		10	19	26	46		11.00	64.00	
	TOTAL		31				•						•

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	ITEN	NUMA	בא אני				COLFFI	CIENTS	OF CORNE	NOTES		· ME	ANS	•	
1			OPT:ON	WY	, , ,	P	Pa-ST	PB-TT	8-51	` 8+TT		ST	ΤŤ	• .	
			C 3	0 0 1 0	1 0 30 0 31	3.2 .0 96.8 C	10 .00 .10 .00	.17 .00 17	-,26 .00 .20 .00	.42 .00 33 .00	с · .	11,00 ,00 12.00 ,00	81.00 .00 72.63 .00	Problem Solving (B) Add-simple joining 11-15	,
-	ITEH	NUMB	ER JE				COEFFI	CIENTS	OF CORRE	LATION		HE	ANS	_	
			OPTION	WT	N	P	PB=ST	P8-TT	B=\$T	8-T T		ST	· TT		•
-,-			C 1 2 3 4 TOTAL	1° 0 0	23 3 3 3 31	T4.2 C 9.7 6.5 9.T	.51 .01 54 32	.54 17 45 26	.69 .01 -1.05 55	.73 30 88 45	C	12.48 12.00 8.50 10.33	75.T0 60.33 58.00 66.00	Problem Solving (B) Subt-part part whole-added 0499	d .
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	LEAT	AP 2',				_	SUHH	IRY ITE	4 STAT 1ST	ICS			, .	PAGE	17
	TEST	NO	1 ACH	ie vehe	NT MONITO	RING AN		· ·		SUBTES	T 1	OBJECT	IVES TEST		
ļ	ITEM	NUME	iea jes	î			COEFFI	CIENTS	OF CORRE	LATION		, HE	ANS	, .	
			OPTION	WT	N	₽ .	P8-ST	P#=TT	8-51	8077		\$T	11		. •
•			C 1 2 3 4 Total	0 0	31 0 0 0 31	100.0 _C	.00 .00 .00	.00	.00 .00 .00	.00 .00 .00	c	11.97 .00 .00	T2.90 .00 .00	Order, Place Value Ordering 0-99	•
	ITEN	NUME	ER X	g			COEFFI	ÇIENTS	OF CORRE	LATION		ME	ANS		209
			OPTION	WT	N	P .		P8 -TT	8-\$T	9 +11		ST	ŤŤ	• .	
ERIC Prail text Provided by EIII	4	••	C 3	0 0 1 0	14 10 3 31	12.9 45.2 32.3 G	05 40 .46 .91	.00 22 .20	08 51 .60 .01	.01 28 .26 .09	¢.	11.75 11.21 13.10 12.00	T3.00 T0,T9 T5.40 T4.33	Order, Piace Value Piace Value 0-99	35

	OPTION	HT	N	P	₽6 -\$T	P8+TT	8-31	P-11		• • •	V		• •
• •	1 C 2 3	0 1 0	4 26 1 0	.0 93.9 C 3.2	.61 .00	35 .36 08	-1.0T .90 .01	56 .53 20	C .	9.00 12.42 12.00	65.00 74.27 69.00	Sentence Wriring (A) Subt-comparison 11-15	,
•	TCTAL	•	31						•	,	,		210
. :	1	0			COEFFI	CIENTS	OF CORRE	LATION		MEA	NS .	•	0
ITEM !	NUMBER 🥕				•	•	8-51	9-11	`	\$ T	TT	*	
•	OPTION	WT	N	P	P8-51	PB-TT	•			•	.00	,	
	1 2 C 3	0 0 1	0 0 31	.0 .0 100.0 C	.00	.00	.00	.00 .00 .00	c	.00 .00 11.97	.00 72.90	Sentence Writing (A) Aud-part part whole 0-99	ي رسم ا
	4	Ō	0 31	• 0	.00	.00	.00			,		••	. ,
	TOTAL		31									•	
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		,								, 1 ×:		PAGE	18
I FRY	1 2.0				SUMM	IARY ITE	M STATIS	TIC5					
		WTFVFMEN	T MONETO	RING TH			•	SUBTE	5 T	1 OBJEC	TIVES TEST	•	
7651	NO 1 AC	MECACHEN								•	•	• ,	
TTEM	NUXBER A	ااح	- 5		COEFF	CICIENTS	OF CORR	ELATION		, m	EANS .		•
216.	OPTION		N	P	PB-51	r P8-T1	r 8=\$1	8-11		ST	TT		
•	1	1 0	0	•0 4.8	• 0:	0 .01 B ' .1!	579	5 .30	· _	9.50	.00 TB:00 - 72.55	Sentence Writing (B) Add-simple joining 11-15	5
	·, C		2 29 0 3 1	93.5	. 30	1 5	5 .67	727	, C	12.14	.00		
	TOTAL	L	31									·	
	'	-12 -			COEF	FICIENT	S OF COR	RELATION	1	H	IEANS	, •	
ITE	NUMBER J			P		T PB⇔T		_		ST	TT.		337
	OPTIO	N WT	· N						,	11.50	75.00	.	001
336	_	1 0	2) 2	67.7	••0 ••	.4	2 .	3 .59	5 C	12.71	75.43 64.86	Sentence Writing (B) Subt-join-addend 0-99	
	C	3 0	Ţ	22.6	6	35		769	,	11.00	72.00	Adhe-last general a sa	
od by ERIC	* 0 * 4	4 , 0,	31 ·	3.8	1841						•	•	

COEFFICIENTS OF CORRELATION

ITEM NUMBER ~ 7

LERTAP	2.0		•		\$UMM/	RY ITEM	STATIST	ics.	•				PAGE 19
TEST N	0 1 ACH	IZEVEMEN'	T MONITO	RING W			٠.	SVBTEST	1	08 JECT	IVES TEST	•	
ITEM N	ÚMBER 13.			·. :	COEFFI	CIENTS	OF ĆOKRE	LATION		- ME	ANS .		
· .:	OPTION	WT -	N	P	₽B≟ST	P8-TT	8-51	BeTT		· ST	TT -	•	
- ;	c 2	0 1 0 0	0 31 0 0	.0 100.0 .0	.00 .00 .00	00	.00 .00 .00	•00 •00 •00	c	.00 11.97 .00	.00 72.90 .00	Algorithms Addition Algor	ithm.
	. TOTAL	-	. 31			-	, ·					*	**
ITEM N	UMBER 14				COEFFI	CIENTS	OF CORRE	LATION		- ME	ANS.		
•	1 OPTION	WT	ัุ่ท	P	PB-\$1	PB-TT	B-31	.Ø≖ŤT		\$ T	TT		
*	° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° °	. 0	25 3 2 - 1	80.6 9.7 6.5 3.2	0 .57 32 54	47 36 21 17	.81 +.55 -1.05	.67 62 41 41	C .	12.44 10.33 8.50 12.00	74.92 63.33 66.00 65.00	Algorithms Subtraction Al	gorithm
	TOTAL		31	•	,	٠			,	<i>;</i>	•	5	',,
•										_		•	
•			4				•			•			•

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LERTAP 2.0					SUMMARY ITEM STATISTICS									
TEST-NO 1 ACH	EASWEN.	OTINON T	RING AN	٠	-	0	•	SÜBTES	T 2	SENTEN	CE WRITING	• PREE RESPONSE		
ITEM NUMBER - 1	•	>	,		COEFF	CIENTS	or corre	LATION		ME	ANS .	ITEM DESCRIPTIONS		
NOTTO	, WT	N	P		₽8-\$T	P8-11	B=\$1	8-11		, ST	77			
¢ 1	0 1 0	.31 0	100.0	С	.00	.00 .00	.09 .00	.00 .00	С	.00 3.65 .00	.00 72.90	Sentence Writing Subt-simple separating 11-15		
TOTAL		31			ر. د دند.	• • · · · • ·	·			, . 	4.			
ITEM NŮMBER >	EM NŮMBES >				COEFFI	CIENTS	OF CORRE	LATION		ME	ANB	•		
OPTION,	WT	N	, P		PO-ST	PB-TT	B-\$T	B-TT		\$T	TT	•		
O C 1 .2	0 1 0	1 24 6 31	3.2 77.4 19.4	¢,	.=.20 .84 80	21 .40 42	1,16 1,15	51 .66 60	c	3.00 3.92 2.67	63.00 75.17 65.50	Sentence Writing Subt-comparison 0-99		
ITEM NUMBER 3	•				COEFF	CIENTS	or corre	 Lation	,	' - ' ME	EANS &			
OPTION	WT	N	P		P8-5T	P0-TT	78-6	- Bett		S T	TT	• ,		
C 1 2	0 1 0	0 30 1 31	96,8 3,2	c	.00 .20 20	.00	.00 .38 40	.00 .20 25	c	.00 3.67 3.00	73.07 68.00	Sentence Writing Add-simple joining 0-99		
TOTAL	•	, 31	•		•	•				•	· ·			
ITEM NUMBER 4			COEFFICIENTS OF CORRELATION						MEANS					
OPTION	/ WT	-N	P		PB-ST	P8-11	B+ST	8+T T	,	` ` \$T	4 TT 1			
0 C 1 2 TOTAL	. 1	1 20 2 31	3.2 90.3 6.5	c	#.20 .72 72	17 .30 24	-,46 1,17 -1,41	41 .49 46	¢	3.00 3.79 2.00	65.00 73.75 65.00	Sentence Writing Subt-part part whole-addend 11-15		
							_			4 "				

PAGE	23

				1	•		′			
LERTAP 2.0	-		•	SUMP	ARY STEM	STATIST	tcs			, 1
TETT NO 1 A	CHIEVEKE	OTENOM TH	RING TH	1	·	,	SUBTEST	3 ADDITI	ON FACTS	_
			COEFF	ICIENTS	OF CORRE	, LATION	ME	EANS	ITEM DESCRIPTIONS	
0PT10	N HT	N	r	PB-ST	P8-TT	B-ST	Ð⊕TT	ST	TT	' . •
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c	1 1	30	96.8			.95	.36 C	11.63	73.20 .00	. , ,
i Totai	2 0 1.	0 31	.0	. 0 0	00	• • •		•••		
	-				,	\		•	•	•
ITEM NUMBER	>			COEFF	ICIENTS	OF CORRE	LATION	M	EANS	•
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	o o	0	.0	_	. 00	.00		.00	.00	
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	5 0	1 3i	3.2	+.69	08	→1. 00	20	3.00	09.00	. ,
TOTA	L	31	,							
ITEM NUMBER	_		,	COFFE	TOTENTS	OF CGRRS	LATION	. · MI	EANS /	,
TIEN KOMBEN	•		•	0001						
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· c	•	31	100.0		-	.00	.00 1		72.90	5 + 2
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						AR AARRT		ш	EANS	-
ITEM NUMBER	4			COEFF	ICIENTS	OF CORRE	LAITON		EMMA	
OPTIO	N , MT	N	P	P8+\$1	PB-TT	B-ST	8-TT	ST/	TT	
•	0 0	0	.0	00	.00	.00	.00	.00	.00	ı. [‡]
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TOTA	L	31			•			•	•	ļ
				·	TOTENTE	OF CORRE	LATION	м	EANS	* 1
ITEM NUMBER	ď								-	•
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Ţ	0 0	0	.0	.00	.00	.00	.00	.00	_ ,+00	,
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· TOTA	L	31			1					•

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LESTAP 2	₹.0.	• ,		_		SŲЖЖ	RY ITE	STATIST	ics				•	PAGE 84
TEST NO	1 ACH	IE VEMEN	Ý MONITOR	ING AM				•	SUBYES	ST.	3 AODITE	ON FACTS	•	1
ווא אפדו	HBER 6	*				COEFFI	CIENTS	OF CORRE	LATION		нг	ANS		7
,	OP TON	HT	Ħ	Þ		PB-\$1	PB-TT	8=ST	8-11	•	ST	TY		
	TOTAL	0 1 0	31 0 31	100.0 0.00		.00 .00	.00 .00 .00	.00	.00 .00		.00 11.55 .00	.00 T <u>2.9</u> 0 .00	1 + 3	
ITEH NU	18ER +		•			ÇOEFFI	CIENTS	OF CORRE	LATION		ME	ANS	•	
	OPTION	y MT	- N	p		P8#\$1	Parti	72 ~5	8-11		\$1	TT		٠,
	C 1 2 Yotal	' 0 ~ 1 G	0 30 1 31	0.8 8.89 S.E	c	.00 .11 -,11	.02 .03		.00 .04 -205		.00 11.57 11.00	12.93 12.00	9 + 2	
			7.				*						•	
ITEM NU	HBER 4					COEFF	CIENTS	OF CORRE	LATION	•	ME	ANS	•	
,	OPTION	¥Ť	N	P		P8#\$T	PB+TT	8#ST	8-TT		ST	ŤŤ		•
	OTAL 2 C 1	, 0 1 0	0 31 0 31	100.0	C	•00 •00		00	.00 .00	C	.00 11.55	T2.90	6+6	
•			`					`\				,		
ITEM NU	MBER 9					COEFFI	CIENTS	OF CORRE	LATION		HE	ANS		
	OPTION	` א ד	N .	P		P8#\$T	P8-TT	B-ŞT	8±TT		ST	, 11		•
	0 C i P Total	. 1 0	29 0 31	6.5 93.5	C	T1 .T1 .00	16 .16 .00	1.25	.29	c	9.00 11.72 .00	67.50 73.28	4 + 7	,
			•			*******		OF CORRE	LATION		'HE	ANS		* .
ITEM NU	MBER IA					•								_
	OPTION	WT	N	P		PB⇔ST	PB+TT	B-ST	8+11		B T	TT .		345
344	TOTAL C 1	0 1 0	. 31 . 31 . 31	6.5 93.5	C	.85 .85	19 .19	`	38 -34 -00	c	6.50 11.76 .00	66.50 73.34 .00	7 + 6	

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ĺ	LERTAP 2.0				SUMM	ARY ITEN	TRITATE N	ICS				
	TEST NO 1 40	HIEVEME	ENT MONIT	ORING ŽW				SUBTES	iT 3	A00111	ON FACTS	•
	ITEM NUMBER 11				COEFF	CIENTS	OF CORRE	LATION		ME	EANS	,
	OPTION	' WT	. N	P	PB+ST	P8-TT	8 -57	B⇒TT	•	ST	TT	
	0	0	5	16.1,	81	- 7.41	-1.22	61		9,80	64.80	
	Cl	1	24	77.4 C	.80	.41	1.11	.57	C	11.96	74.83	9 + 7
	2	0	√5	6.5	15	09	30	P. 17		11.00	70.00	
	'- TOTAL		31		,							
	ITEH NUMBER 12				COEFF	ICIENTS	OF CORRE	LATION		, ме	EANS	
	OPTION	WT	, N	P	PB-ST	PB-TT	8-\$1	B-TT		\$ 7	TT	
	, 0	•	0	.0	.00	.00	.00	.00		.00	.00	
	Ct	1	31	100.0 C	.00	.00	.00	.00	C	11.55	72.90	6 + 4
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	TOTAL		31					•		}		
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LERTAP	2.0 -	•				SUMKAI	RY ITEM	STATIST	ıcs					PAGE	2 T.
)] ACHI	EVEMENT	ROTINOH 1	:NG: XH		•			SUBTES	T 4	SUSTRA	CTION FACT	s		
	UMPER 1		,			COEFFI	CIENTS	OF COMPE	LATION		ME	ANS	ITEM DESCRIPTIONS	3	·
• 15.7	OPTION	WT	N	P	-	P8=ST	PB≠TT	8-\$1	B+TT		ST	ΤT			
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	0	0	0	100.0	С	.00	.00	•00	.00	C	10.65	T2.90	3 - 2		
	Ci	1	91 0	.0	•	.00	.00	.00	.00		.00	•00			
	TOTAL	•	31	••		•••			•		.•				
	•										,	ALIC .		•	
TITEM N	UMBER 2					COEFFI	CIENT\$	OF CORRE	LATION		HE	AND			
•	OPTION	HT	N	P		P8-ST	PB-TT	B-ST	8-TT		ST	TT	-	•	_
		0	0 -	.0		.00	.00	.00	.00		.00	.00			•
	. C 1	1	31	100.0	С	.00	.00	.00	.00	C	10.65	T2,90	6 - 4		
		•	* 0 ~	.0	•	.00	.00	.00	.00		.00	.00		•	
	TOTAL		3ĭ	••							•				
	_										ME	ANG .			
ITEM N	UMBER 3			-		COEFFI	CIENTS	OF CORRE	LATION				:		
,	OPTION	WT	N	P		PB=ST	PB=TT	6-ST	8-TT		ST	TT			
						31	17	⇒.75	4I		8.00	65.00	,		
	0	0	1	3.2 96.8		.31	.17	*	.32	C	10,73	73.17	9 ~ 1		
•	C 1	1	30 0	•0	•	.00	.00		.00		.00	00			-
	TOTAL	v	31	••		***	•••	•							
	14120					_	, <u>.</u>					.,	•		
ITEM N	IUHSER 4					COEFF	ICIENTS	OF CORRE	ELATION		ME	EANS .			
	OPTION	WT	N	Р		PB-ST	PB-TT	B=ST	B-TT		ST	TT			
_	OF12010						•		- 70		8.00	60.50			
٠,	0	0	5	6.5			-,37		*.73		10.83	73.76	7 ~ 3		
•	Cl	1	29 1	93.5	C	.44					.00		·		
	5	0	0	+0		.00	.00	•••	•••	,	•••				
	- TOTAL		31										4	•	
- 	IUMBER 5			_		COEFF	ICIENTS	OF CORR	ELATION		M	EANS	•	*	
TiEm n	/ *			_							ST	77	Ī		
	OPTION	WT	N	P		76 7 51	₽B⊶TT						1	34	19
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	TOTAĽ		31												

LERTAP 2.					•	SUMMA	ARY ITE	4 STATIST	ICS	,	٠.	•	
TEST NO	1 ACH	(EVEHEN1	MONITO	HA DNIR				,	SUBTE	ST 4	SUBTRA	CTION FAC	ets .
ITEM NUMB	ER 6			•		COEFFI	CIENTS	OF CORRE	LATION	•	M	:ans	
	02710::	WT	N	þ		P8+ST	PB-TT	8+57	8-77		ST	TT	•
	. 0,	0	c	0		.00	.00	00	.00		.00	.00	° 7 - 5
•	C 1	1	39	96.8	C	.31	.21	.59	¿40	c.	10.T3	73.23	, - 3
	TOTAL	0	1 31	2.5		31	21	₩,15	*.51		8.00	63.00	•
ITEM NUMB	er 🤊				-	COEFFI	LCIENTS	OF CORÁE	LATION		ME	ANS .	
•						••••		_				****	
	OPTION	· HT ·	N	* P		Pa-ST	PB-TT	8-ST	8+TT		ST	TT	
	a	ð	2	. 6.5		61	21	-1.19	41	•	7.00	66.00	
-	Ci	ĭ	29	93.5	C	.61	-151	1.07		С	10.90	75.38	10 - 4
	ż	ŏ	5	.0	•	.00	.00	.00	.00	•	.00	•00	
	TOTAL		31					• • •	•		• • • • • • • • • • • • • • • • • • • •		
ITEM-NUMB	ERo o					coEFF1	CIENTS	OF CORRE	LATION		Mi	ANS	
_													
	OPT I ON	WT	N	Р.		PB-ST	PB-TT	_B+ST	8 _{te} TT		ST	TT	
	0	0	5	6.5		44	19	₩.86	38		6.00	66.50	
,	C 1	1	26	83.9	C	.40	. 30	.59	.44	C	10.92	74.04	13 - 9
	2	0	3	9.7		13	21	23	36		10.00	67.33	
•	TOTAL		31				••					,	
ITEM NUMB	ER 4					COEFFI	CIENTS	OF CORRE	LATI ON		Mi	:ANS	
•	OPTI ON	NT	N	P		P8-ST	PB-TT	B-ST	8-TT		ST	TT	· .
•			· _				• •	••	14			*1 00	
•	0	. 0	5	16.1	c	-,51	10	73	14 .02	c	B.80 11.04	71.00 72.96	14 - 8
•	C 1	ò	25 1	80.6 3.2	U	.51 07	.01	-,18	.42		10.00	81.00	2, 0
•	TOTAL	٧	· 31	316		2101			146	•		~*** 00,	
					1		· · · · · · · · · · · · · · · · · · ·				***	MP	
ITEM NUMB	ru je					COEFFI	CIENTS	OF CORRE	-L-110N		ME	ANS	•
•	OPT I ON	WT	N	Р.		P8=ST.	P8-TT	8-\$T	B-TT		\$T	TT	
•	. 0	0	5	16.1		74	+.37	-1.11	5S		8.00	65.60	
	Ci	1	55	71.0	C	.67	.39	,88	,52	C	11.32	75.09	11 - 7
	ā	ŏ	. 4	12.9		F.10	-,13	-,15	-,20		10.25	70:00	
	TOTAL		/ 31				-			-			
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LERTAP 2.0	٠,			,et SUMMA	RY ITEM	STATIST:	tca	•		
TEST NO 1 AC	IEVENENT	MONITOR	æ. `	,		\ .	SUBTEST	4 SUBTRA	CTION FACTS	,
ITEM NUMPER 11			, , , , , , , , , , , , , , , , , , ,	COEFFI	CIENTS (F CORRE	LATION	ME	ANS	
OPTION	¥Τ	N.	p ****	PB-ST	PB-TT	6+ST	B⇒YT	\$1	77 *	
0 0 1 2 Total	0 1 0	6 23 2 31	19.4 74.2 6.5	••72 ••11	41 .46 16	-1.03 .96 21	_	8.33 11.30 10.60	65.67 75.26 67.50	12 - 4
ITEM NUMBER 12		•	·	COEFFI	CIENTS (OF CORRE	LATION	Me	ANS	•
OPTION	₩T	N	P	P8~\$T	PB-TT	8-5T	В-ТТ	ST	TT	₹,
C 1 2 Total	0 1 0	5 23 3 31	16.1 74.2 9.7	40 .57 34	•.37 .40 · •.13	•.60 .77 •.59	•.55 .54 \C •.23	9,20 11,17 9,00	65.60 74.96 69.33	17 - 9 .
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TEST	NO	1	ACHIEVEMENT	MONITORINO	HK

TEST NO	1 ACMI	EVEMENT	MONITO	RINO AW					SUĐTES'	r 5	ADDITIO	ON ALBORIT	114
*,7	, · .	. :				*****	CIENTS (TE CODDE	 . MOT TA I	*	NE NE	ANS	ITEM DESCRIPTIONS
. ITEM M	I + * A3BH					COEFFI	CIEWIS (or Conne	EH - 2 Old	ž		.,	^
	OPTION	ыT	N ^C	Α .	-	PB-ST	PB=TT	B#\$T	8-11		ŞT	ŢŢ	•
ù	′ 0	ó	0	٠. ٥		.00	.00	.00	.00		.00	.00	<i>5</i> 1
1	¢i	- 1	29	93.5	C	•1T	02	-, 32	+.03 .04	G	20,76 19.08	72.86 73.50	+ 27
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ITEH N	JHBER >			· -	5	COEFFI	CIENTS (OF COARE	LATION	_	, • ME	A NS	
•	OPTION	WT	N	P		PB-\$1	PB+TT,	B-ST	8-11	Š	, ST	TT ,	11/4
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	. C1-	ì	31	100.0	C	.00	.00	.00	.00	¢	20.65	T2.90	+ 48
	2	•0	0	•0		.00	.00	.00	.00	3	.00	.00	mentale.
	TOTAL		, 31	-				. ,	-			•	
ITEH N	UMBER 3		•			COEFF	LCIENTS	OF CORRE	LATION		HE	ANS	
* 1 m/r			4.	ρ	,	•	-: PB+TT	6-ST	BOTT		ST	. 77 1	25
	OPTION.	WT	N				1	•	1			* .	25.
/ [-		0	0	. 60	С	.00	.00	.00	.00	С	.00 20.70	.00 73.07	+ 22
	C 1	, l	. 30 . 1	96.8	٠	12		-,28	25	٠,	19.00	68.00	,
34	TOTAL	•	· 31			4	· .	. 1		•	• •	٠	
	× .				•		į	1	-	•			•
ITEN N	UMBER 4	' •		9		COEFF	PCIENTS	OF CORRE	ELATION		, ME	ANS CAN	
,	OPTION	WT	ĸ	ρ		P8-ST	: PB=TT	8-5,T	8 ≠TT		SŢ	ูรร	2/2
						.00	.00.	.00	•00		.00	.00	362
	0 C 1	0	0 31	100.0	C	.00	.00	.00	.00	C	20.65	T2.90	+ <u>205</u> `
	4. 2	ö	0	.0		.00	.00	•,00	.00		.60	:00	
	TOTAL	_	31	•			•	.	٠,	•			
	1	1						, , , , , , , , , , , , , , , , , , ,	r: 4 7 7 041		, Ma	ANS	•
ITEM N	UMBER 5				·	COEFF	ICIENTS,	1 1	FFWITON	•			را دران مسوور
\	OPTION	WT "	Ŋ	P		P8#ST	, PB-TT	6-ST	B-TT		ST "	ΤŢ	447
\	,],	0		•0		.00		· -/ .00	200	٠.	.00	00	± 212
,	C 1	1	31	100.0	C	00	.00	1,00	.00	C	20.65	72.90	
\	2	Ō.	. 0	0		.00	• • • • • • • • • • • • • • • • • • • •	.00	•00.		.00	, • 00	
Ì	TOTAL		. 31					1				1	

rest no 1 Achievement Monitoring Am

SUSTEST 3 ADDITION ALGORITHM

,			-	٠							6
ITEM NUMBER 6					COEFFI	CIENTS O	F CORREL	ATION		, ME	¢N4
0PT10N	иТ	N	P		PB-ST	PB-TT	B-ST	8-11		` ST	TT
•	0	1	. 3.5		 32	₩ 21	80	51		16.00	63.00
. 0		•	96.6	C	38	.21	.63	.40	C	20.80	73,23
· C1	1.	30 0	•0	٠	.00	,.00	.00	.00	``\	.00	.00
, 2	U	31	••	•	•••	,	•••	•	•	`	
TOTAL		, 31	•							\	
					•						
ITEM NUMBER 7					COEFFI	CIENTS (F CORREL	ATION		ME	ANS
OPTION	WT	N	P		P8-57	PB-TT	8-51	8-77		\$T	
,)	ð	0	.0		.00	.60	· 00	.00		00	.00
C 1	i	31	100.0	С	.00	.00	.00	.00	C	20.65	T2.90
· · ·	ň	3,	.0	-	.00	.00	-00	.00		.00	.00
i. 2 Total	v	. ,31	. •		•••		-			į.	
- JULAE		. , • •	-				•			\	,
•				_		4.5.06	AF AABPE	40174		MF	ANS
ITEM NUMBER - A					COEFFI	CIENTS	OF CORRE	PWITON		76	•
OPTION	WT	N	Р		P8-\$1	PB-TT	B-ST	B-TT		ST	TT
	.jo	0	.0		00.	.00	.00	.00		.00	.00
0	1	29	93.5	С	.12	.16	.20	.29	C	20.72	T3.26
C 1	. 0	27	6.5	•	12	16	4,52	32		19.50	6T.50
TOTAL	٠.	31	,	٧,	\		•	1			
IVIAL		4.	•	-	1 -	•			-	•	
ITEM NUMBER 9	,				COEFF	COLENTS :	OF CORRE	LATION		ME	ANS
OPTION	ит	N	P		PE-ST	PB+TT	8-51	8-11		ST /	TT
٠	0	٥	0	٠,٠	.00	.00	00ء	.00	•	.00	.00
.0	1	29	93.5	č	09	•.00	w.15	0I	C	20.59	T2.90
· C1	ô	2	6.5	•	.09	.00	17	.01		21.50	73.00
TOTAL	•	31					`	*			
,,,,,,					*	•					
ITEM NUMBER 10		-	4.	-	COEFF	ICIENTS	OF CORRE	LATION		HE	ANS
			• •	:		P8-TT	B+5T	8-TT		\$ T	TT
09T*0N	WT	N	, P		PB-ST	PD-11	, ,	4		≖)	
_		Ô	.0		.00	.00	.00	.00		.00	.00
) m 12 0	0	30	96.8	Ģ.	.32	.21	.63	.40	C	20.80	.73.2
356 ° i	10	30	3.2	, `	32	21	80	51		16.00	63.0
2.	U		318		-105	- 1 - 5				=	

+ 84

7 + <u>59</u>

357

ERIC Full Text Provided by ERIC

LERTAP 2.0	,	•			SUMMA	RY ITEN	STATIST	108		-			PAG
TEST NO A	CHÌEVEHËNT	MONITO	W DNIR			٠ -		SUBTES	ST` 5	ADDITI	ON ALGORITA	1 M	
ITEH NUMBER 1	1				COEFF	CIENTS	of corre	LATION		MÉ	ANS		
01140	N WY	N	· P		PB-ST	PB-TT	8-ST	- Batt	,	ST	TT		
	0	0	.0		•00	.00	.00	.00	•	.00	.00	. 56	
C -	1,2	29	93.5	C	.06	00	.11	01	C	20.69	T2.90	-	
	5 0	\$	5.5		06	.00	13	.01		20.00	T3.00	+ 34	
T 0 T A	L	31						•					
ITEM NUMBER :	2				ÇOEFF	CLENTS	OF CORRE	LATION	;	, ME	ANS		
OPTIO	Ň WT	N	P		PB-ST	PB+TT	P+ST	. B-TT		ST	ΤΤ	_	
		`										59	
	0 0	0 ′	. 0	_	.00	.00	.00	.00		•00	• 00	\ <u></u>	
` ' C		52	80.6	¢	•31	01	.44	02	C	21.04	72,84 73.17	+ %5	
	S 0	6	19.4		31	.01	w. 44	.02		19.00	13.11		
±101	Ļ	-31											, ,
ITEM NUMBER 1	3			,	COEFF	CJENT5	OF CORRE	LATION		. ME	ANS		
0;740	n Wî	N	P		P8+57	PB-TT	B-ST	D-TT		ST	TT	Lou	1
	n 0	1	3.2		4,45	33	-1.14	*.82		14.00	51.00	lor	•
c	•	_ 0	96.8	c	.46	.33	90	.65	С	20,81	T3.43	. + 839	1
	2 0	Ó	.0	•	.00	.00		.00		.00	.00		<u>-</u> -··
TOTA		- 31 -	-		•••	•••		-		·			•
ITEH NUMBER 1	4				COEFF	CIENTS_	OF CORRE	LATION		, ME	AŅS		
•	_												
02790	N WT	N	₽		PB-ST	PB-TT	B+ST	8+11		ST	TT	559	l
			3.0		46	- 42	-1.14	82		14.60	ST.00 .		•
	0	1	3,3		.42	*,33	,68	,47	c	21.00	7: ?1	17.230	2
C	•	5 50	90.3 6.5	С	17	.28 10	7.32	20	·	19.00	69.50		
TOTA	••	31	6.3		4.17	10	7194	~160		17,00	05120		
	L	31	•			*					,	•	
ITEM NUMBER 1	5				COEFFI	CIENTS	OF CORRE	LATION		ME	ANS		
							•	_				328	
0PT10	N WT	N	P		PB=ST	P8-TT	8-\$T	8 +11		ST	TŢ		
	_	_			•		·				44 '	+ 349	1
	- ,	5	6,5	_		*.39	-1.11	*+T6	_	15.00	60.00	-	-
c		25	80.6	C	.50	. ,43	•71	. 61	Ų	21.28	14.72		
	S 0	4	12.9		17	55	27	35		19.50	68.00		
TOTA	L	31		1	1			•		٠.			4

• **) LERTAP	2.3					Q UMMA	ARY ITE	M SYATIST	ICS		,	•		PA	GE 34	
	TEST NO		EVEMEN	T MONITO	RING ÅH		;			\$UBTEST	T 15	ADDITI	ON ALGORITHM	•	يعو		2
	ITEM NU	MAER 16					COEFFI	CIENTS	OF CORRE	LATION.	·	ME	ANS		-		222
		OPTION	WT	N	P		PB-ST	PB-T7	B-5.7-	B+TT		ST	17				•
	•	9	0	5	6.5		57	-,39					. 60.00		, 		
		Ç i	1	28 1	90.3 3.2	C	.46	.45 21		.73 . 5 1	¢	21.04 21.00	74.18 63.00		μ31		
		TOTAL	٠,	31	7.0		142	-15.	,,,	- 10.	-	2.,		+	272		
	_	MBER 17					COEFFI	CIENTS	OF CORRE	LATION		. ме	ANS				
	•	0P110h	ЬT	N	P		PB#ST	P8+1,7	B=57	8-71		ST	T 7			,	
		٥	0	2	6.5		57	39		T6		15.00	60.00		594	٠,	
	-	C 1	ì	26 3	83.9 9.7		84. 51	.30 #.0E	.71 -,21	08	¢	21.19 19.67	74.04 71.67_"	_1.·			
		T07AL	·	31	7.	•	-116		,	-100		4,401		T	<u> 383</u>		
	ITEM NU	MBER 18			•		COEFFI	CIENTS	OF CORRE	LATION		ME	ANS				
		GPT 1 OH -	· -WT-	N ·	p		PB-ST	P8-TT	8-57	B-TT		\$ T	TT		•		
		o	0	· 2	6.5		+.57	39	-1,11	-,T'		15.00	6¢.00		482.		
	•	C 1	1	25	83.9	¢	.48	.28	.71	.41	¢	21.19	73.96	+	436		
	,	2 107AL	0	31 31	9.7		-,12	02	-,21	04		19.67	72.33				
	TITEM NU	MBER 19					COEFF	CIENTS	OF CORRE	LATION		ME	;FNS				-
•	•	OPTION	WT		, P			PBeTT		B=71		ST	7.7		242		
•		٥.	o	1	3.2		46	33	-1.14	82		14,00	57.00		347		
		C 1	1	25	-80.6	¢	.53	.23	.75	. 33	¢	21.32	T3.08	+	<u>539</u>	.	
		2 Total	0	,5 31	16.1		34	09	-,52	13		18.60	71.20		• *		
				•											•	•	
	ITEH NU	MSER 20					COEFFI	CIENTS	OF CORRE	LATION	•	ме	;ANS				
-		OPTION	W7	N	P		P8-ST	PB-TT	8+57	8-17		5,7	71		188		•
		٥	o	5	6,5		47	,=,36	-,91	70	1	16.00	61.00	` +	295	•	361
		Çį	1	23	74.2	¢	.57	.44	.77	.60	¢.	21.52	75.17	•			
38	6U	2 TOTAL	0	6 \ 31	19.4	•	34	27	49	-,38		18,83	68,17		•		,
		14166		/						•							

BENIEF CO.					3 411.75			•••				
TEST NO 1 ACHI	E V E MEN	T MONITO	RING AN	•		·		SUBTES	;T 9	ADDIT:	ION ALBORIT	- м
ITEM NUMBER 21					COEFFI	CIENTS	OF CORRE	ELATION		Á	EANS :	•
OPTION	wT	N	7	-	PB=ST	29 - TT	B=ST	8-11		ST	TT (,
٠ ,	`, 0		6.5		-,4T	-,36	. .91	To		16.00	61.00	996
Ci	1	24	77.4	C	.58	.30		.41	C	21,46	74,29	
à	ē	Š	16.1	•	34	10		14		18.60	71.00	+ 317
TOTAL		31				• •	•			•		- -
ITER NUMBER 2>					COEFF	CIENTS	OF CORR	ELATION		М	EANS	
NOTTON	¥Т	N	P		PB-ST	P8-TT	•			ST	TT	•
								_				
0	9	4	12.9		46	37		59-	_ 		64,50	69
C 1	1	17	54.8	C	~ , -60	39	75	, 49	Ç	. 22.06	76.90	
	- 0	10	35.3		→.30	15	-,39	20		19.50	71.00	٣٥
TOTAL		31									·	+ 34
ITEH NUMBER 23					COEFF	CIENTS	OF CORR	ELATION		М	EANS	,
0PT10H	HT	- N	P		PB=ST	PE=TT	B-ST	8-TT		\$T	TT	
0	0	•	12.9		32	24	50	36		18.50	67.50	86
C i	1	16	51.6	C	. 34	.12		.15	C	21.50	73.94	54
ż	ō	iī	35.5	•	13	.04		.05	_	20.18	73.36	·
TOTAL	·	31				• • •			٥		•	+ 46
ITEM NUMBER 24					COEFFI	CZENTS	OF CORRE	LATION		M	EANS	
			* p								••	٠,٨-
OPTICN	WT	N	P		₽8 →5T	P\$ →11	B-5T	B=TT		\$T	TT	95
. 0	0	6	1904		-+51	23	-,31	·+.33		19.50	68,83 .	99
Ci	ì	17	54.8	c	-4T	, 32		.41	С	21,76	T5.47	
2	, ,	8	25.8	-	m = 34	-,14		- 22	-	19.12	T0.50	+ 78
TOTAL	¥	31				-, ,	- • •				*	
14128				_								

- -

365

ERTAP 2.0			_		SAULTE	(1 116H 4					3-10N 41 665	. Tuu
EST O 1 ACH	IZEVEHENT	MONITOR	ing an		•		, ,	SUBTEST	6	SUBTHAT	CTION ALGOR	(T) Ma
						CIENTS OF	r coppel	AT TON		HE	AHS	ITEM DESCRIPTIONS
TEM NUMBER 1								_			. <u>.</u> TT	·
OPTION	WT	N	· p		P8-57_	-PB-TT	8-51	B⇒TT		st ·	11	
		· · · · · · · · · · · · · · · · · · ·	· •0		•00	.00	.00	•00		.00	.00	94
		30	96.0	c	.30	,21 ·	.59	.40	¢	14.73	13.23	- 60
. 2	. ò	30	3.2	•	30	21	. 74	51		6.00	63.00	90
TOTAL	· • .	31				•				• '		
	•											•
TEM NUMBER 2			•		COEFFI	CIENTS 0	F CORRE	ATION	* -	ME	ANS	
		a.	P		98 + \$7	PB=TT	6-ST	8-TT		\$T	TT	~ ^
OPTION	WY	N	•		FB-01	70		-				. 78
	0	0	.0		.00	.00	.00	.00	·	.00	.00	- <u>64</u>
		31	100.0	C	.00	.00	.00	•00	Ç	14.45	T2.90	67
		.0	•0	-	•00	.00	.00	.00		.00	•00	
2	•	31	• • •			-				•		•
TOTAL		••										
ITEM NUMBER - 3					COEFFI	CIENTS C	F CORRE	LATION	-	HE	ANS	
		N	p		98 - 57	PB=TT	B-\$T	B ⇔T T		ST	TT *	48
. OPT10N	, , , ,	••	-								•00	
	• •	0	•0		.00	.00	.00	.00	_	.00	T2.90	- <u>21</u>
C 1		31	100.0	C	`.00	•00	.00	•00	C	14.45	.00	
2	_	Ť	• • •		.00	•00	.00	.00		• 00	•••	
." TOTAL		31	• •		•							
			• .							M.	EÁUS	
TEH NUMBER 4	•				COEFF	ICIENTS (OF CORRE	LATION		•		
_		N	P		P8-51	#8-TT	8-ST	· B+TT		51	TĨ	634
OPTION		.,,	•								•00	
(. 0	0	.0		.00	•00	• 00	.00		• 00	T2.90	- 523
C i		. 31	100.0	C	.00	.00	,00	.00	Ç	14.45	.00	-
• 1		Ö	•0		•00	.00	•00	•00		•00	•••	
TOTAL	•	31									•	
		•								44	FAME.	-
ITEM NUMBER !	5				COEFF	ICIENTS	OF CORRI	ELATION		_ M	EANS	
	-	-	_			#8-TT	B-\$T	8-11		ST	TT	582
0PT10	N WT	N	P		P8+\$T	F0=11	44 ,					- 232
		• **			.00	.00	.00	•00		•00	.00	<u> </u>
364		0	.00				.00	.00	¢	14.45	72,90	
304 c	1 1	31	100.0	Ų	•00	• • • •	***			.00	•00.	•

TOTAL

	LERTAP 2.0"	•		.,	SUMM	ARY ITEM	STATIST	ICS		•		PAGE
	TEST NO 1 ACHI	EVEMEN	T MONITO	RING WW ,				SUBTEST	6 SUBTR	ACTION AL	GORITHM	1
	ITEM NUMBER 6				COEFF	ICIENTS	OF CORRE	LATION	М	EANS		
	OPTION	WT	N	p.	PB-ST	P8-71	8 - \$T	8-17	. ŠT	. тт	•	·
	. ` 0	o		.0.	00	00		.00		00	•	_
	. 61	1	31	100.0 C	.00	æ. 00	.00	.00 ċ	14:45	T2.90		•
	ż	i	0	0.	00	.00	.00	.00	. 50	.00	-/ 998	•
	TOTAL		31	,		•	-	• • • • • • • • • • • • • • • • • • • •			- 676	
•	ITEM NUHBER 7	_			***		OF CORRE	1 4 7 700	441	EANS		• .
	I IEM NUNDEN 7				COEFF	TOTENTS						
	OPTION	WT	N	P	PB-\$1	P8+TT	8-ST	B-TT	\$1	· 11		
	. 0	٥.	0	. 0	.00	00	.00	.00 _	.00	.00	/.2	
	C 1 -	1	25	80.6 C	.64	. 48	.90	.69 C		74.96		
	, s	0	6	19.4	* +,64	-,48	-,92	~,69	T.83	64,33	~ _ 1	í-
	TOTAL		31						•		•.	•
	ITEM NUMBER A		•		COEFF	CIENTS	OF COPRE	LATION	M	EANS .	• •	
	OPTION	WT	N		08_67	00_77	£+ST	Bett	. ST	77	•	
	OL 110M	"'		•	, Dag i	PB-TT	D#J.	5411	. 31	''	٠ ٧٤	_
	0	0	0	•0	.00	00	.00	.00	.00	00	· 4 <u>5</u>	*
	C 1	1	56	83.9 C	165	. 52	.92	.7T C	15.85	T4.88	• - 7	
	2	0	5	16.1	62	-,52	-,94	T8	7.20	65.60	***************************************	
	TOTAL		31			٠,		- مسئر ا	-			
							_	٠.		٠		
	17EM NUMBER 9			•	COEFF	ICIENTS	OF CORRE	LATION	MI	EANS		
	-OPT 10N.	WT	N	P '	PB-ST	PB+TT	8-\$1	Ô⇔TT	SŤ /	' • • • • • • • • • • • • • • • • • • •	ר.	7
		0	0	.0	.00	.00	.00	.00	.00	.00	_ `\$	
	° c i	1	24	77.4" C		- 30	,55	.42 C	15.54	74.33		
	2 •	Ō	T	\$5.6	40	w.30	53	.4,42	10.71	68.00		
	TOTAL		31			•	_		. **			• ,
		4 3"				· •					, — · ·	
	ITEM NUMBER 10				COEFFI	CIENTS	OF CORRE	LATION	н	EANS	•	
	OPTION	WT	N	P	P8-81	PB-TT	8-51	B+TT	\$T	ŤŤ	 .	•
	_	•		3.0	••	1		- # *	4 00	63.00	- 31	• •
	C 1	0	- 2T	3.2	30	21	~, ⊺4 ,84	51 .68 C	6,00 15,52	T4.37	- 15	,
	6 1	Ų Ť	. 3	87.1 C 9.7	.54		···· 2:75	64	13.0e	63.00	1	•
	TOTAL	•	31	711		-431		- 104		-2100		
		-								. ,	•	
	·						_					•

	LERTAP :	2.0	-			SUMMA	AV ITĒM	STATIST	105			//	297	PÁGE 39	,)
,	TEST NO	1 ACHI	LEYZMEN	IT MONITO	RING XH			f .	SUBTEST	6	SUBTRA	CTION ALS	ORITHM	•	
-' '	TTEM NUI	II Ä3eM	Я		_	COEFF/1	/ CIENTS	OF CORRE	LATION		ME	ANS		-	26
,		OPTION,	WT	Z N	· • •	PO-ST	PB+TT-	B#ST	8-77		ST .	/ 11	•	•	
		C I R	- 1 0	2 [°] 24 5 31	6.5 17.4 C 16.1	-136 -59 43	-,30 .51 -,38		.70	c ,	T.50 16.08 9.40	63.60 75.29 65.40	77 - 29		
ج.	, TYEN NIJ	MAER 12	· i			005005	,	OF CORRE	LATTON		./ ME	ANC		_	· ·
1.	1166 1101			- ,		COEFFI	CIENIS	UP .CURNE	CHITON	. •	; -		,		10
-		OPTION	WT	Ň	b .	P8#ST	PB-TT	BeST	Batt		ST -	7 7 T	•		:
	'1 :	C 1	0	21	9.T C	39 36 37	.45 .52 21	68 51	7T 68 3T	c .	0.33 16.48, -	,61.00 T6.05 68.5T	- <u>63</u>	• , ,	,
1	1			•	•				i -		1				4.
ļ	ITEM NU	KBER 13	, ,		•	COEFFI	CIENYS (OF CORRE	LATION		HE	ANS		, -	• • • • •
-	-	NOTTO	HT :	. N	P	PB-ST	PB#TT	8-5T	B-TT		\$T	71	, ,		
• • • • • • • • • • • • • • • • • • • •		C 1 2 TCTAL	0 1 0	5 14 12 31	16.1 '45.2 C	35 .86 62	45 .T6 44	1.08	67 .96 56	C	10.40 19.29 10.50	64.00 80.21 68.08	- 453 - 215	, , , , , , , , , , , , , , , , , , ,	
1		40-0 5.		ı	\	, -									
}	TIEM NUM	43ER 14	•		•	COEFFI	CIEVID	OF CORRE	LASTON		≠ ME	ENA	•	, , , ,	
´ \		OPT:ON	нT	N .	P	PG-ST	PB#TT	` #=ST	B-TT	<i>:</i> .	ST	Ťř	950	<i>;</i>	•
		C ; 2 2 TOTAL	0	13 13 13	-16.1 41.9 /C 41.9	35 .81 55	45 .62 49	*.52 1.02 *.69	1,04	С	10.40 19.31 11.15	64.00 81.31 67.92	- 219	,*	
	ITEM NUV	18ER 15	-		·. ,	COEFFI	CIENTS (OF CORRE	L'ATION		ME	ANS		/	
		OPTION	wT	' N'	ئە م		PB-TT			•	ST 1	TT	994	• •	360
3(63	C 1	0 1 0	5 14 12 31	16.1 45.2 C 38.T	35 .86 62	7-45 -16	52 1.05 76	- 6T - 96 - 56	s C:	10.40 19.29 10.50	64.00 80.21 68.08	<u> - 336</u>		,
. •	Ì	TOTAL		. 31	<i>(</i> -		•	<u>~</u>	1	~	. •		;	,	• •

•	81	, 4	٠	•	•

SUMMARY ITEM STATISTICS

PAGE 40

		_	, . 0	. •			T		•	
TERE NO 1 ACH	IEVE <u>MEN</u>	T MONITO	RING AN _			 _	SUBTES	6 SUBTR	CTION ALG	ORITHM
 _			,				[•
ITEM NUMBER 16			!	COEFF	ETHELDI	OF CORRE	LATION	МЕ	ANS .	
OPTION	wT	N	P	PB-ST	P8+TT	8-ST -	8⇔77 -	. 57	`TT	
_								•		\
. 0	0	6	19.4	52	-	-,75	+.86	9.00	62.33	-
Čį.	. 1	16 **	51.6 29.0	C .82	• •	1.03	•95		79.31	: 746
- TOTAL	•	1 31	2740	45	-,32	, e a r	42	10.89	48. 56	· _ —
		1 5.				•				<u> 584</u>
ITEM NUMBER 17		j	•	COSEF	CTENTS	OF CORRE	LATTON	ti s	ANS	·
·			- 				9-11-2-11-			
OPYION	WT	N/	P	P8=ST	PB-TT	8-\$T	B⇔TT	\$T	TT	
	. 0	•'	12.9	/35	+,47	÷ 57°	+.75	9.75	62.25	
C 1	1	18	58.1			.92		C . 17.61	78.00	914
à	0	,9	29.0	53		70	53	10.22	67.44	- 540
TOTAL		31				•				510
		1					•			
ITEM NUMBER 10		; ;	•	· COEFF	CLENTS	OF- CORRE	LATION	ME	ANS	
. OPYION	WT	, N	P	Pa-st	PB-TT	B-ST	8=1 T.	, ST	τī	- 1
	•					2.4.				177
- 0	0	"·	55.6	*• 47			72	,10.00	64,57	677
. <u> </u>	1	1.4	45.2			1-08-	.91		79.86	- 393
TOTAL	0	10 31	35.3	-,49	,31	64	40	10.80	69.00	
·		3.	•	•				• • •		•
. NUMBER 19				COEFF:	ICIENTS	OF CORRE	LATION	· ME	ANS	
							•	,		!
. OPTION	WT	N	· Þ	PB+ST	P8-T!	8 - \$T	B-TT	\$T	TT	428
ð	0	10	32.3	33	46	43	60	12.00	7.10	
C 1	1	6	-v-	C .68	_	. 97	.93	·	84.33	- 289
à	0	15	48.4	-+23	06	28	10	49.2T	72.20	
_ TOTAL		3),		•						•
TEN MUNICO S.						05 00005		11-		
ITEM NUMBER 20			•	COEFF		OF CORRE	FULLOW	_	ANS .	121
OPTION	WT	N __	P	PB=ST	PB+TT	. B=ST	B⇔TT	\$T	ŢŢ	661
0	0	10	32.3	33	46	-,43	-,60	° 12.00	67.10	- 462
, cj	i	7	55.6		71	. 92	,99		84.43	 ,
2	0	14	45.2	25	1T	-,31	81	13.07	71.29	
TOTAL		31				_				,
					•					

FEHTAP S.D					JOHNA	ter Time.	JIMI EVI	•••				•
TEST NO 1 A	CHIEVENSN.	1 MONI <u>T</u> 01	AING Š				•	SUBTES	T 6	SUGTRA -	CTION ALGOR	
TTEM NUMBER ,2	1			•	COEFFI	CIENTS (or corre	LATION		ME	ANS	
a p Ť I a	N WT	N	P		PB+\$T	P8-TT	8+57	8 - TT		\$1	TT	•
-	0 0	13	41.9		34	51.	-,44	6 4		12.38	61.69	100
+C		5		C	.65	.65	1.03	1.02	C	22.40	86.40	685
,,	\$ 0	13	41.9	•	3T		-,21	.00	_	13,46	72.92	- 596
TOTA		31	4.47				•	•		•		
ITEM NUMBER 2	2				CoEFFI	CIENTS (OF CORRE	LATION		ME	ANS	
	. 1									٠		•
aPT (Q	TW KI	N	Ρ 1	-	P8-5T	PB-TT	8 - \$1	9 + T T		*\$1	TT ,	
				•	•	51	-,44	64		12.38	6T.69	
	0 0	13	41.9	С	34 .63	.61	95	.92	c	21.80	85.00	620
C	1 1 0	5 13	16.1 41.9	•	13	.09	-,15	07	•.	13.69	73.46	
TOYA	•	31	7417			•05	- • • •	• • •		••••		- 545
1412	•	31				• .	٠ ،	•				
							٠,		•	• •		•
ITEM NUMBER P	3				COEFFI	CIENTS	OF CORRE	LATION	•	ME	ANS	
OPT10	N WT	N	P		P8#\$T	P8∼TT	8-57	8-11		ST.	TT	
	o ' 0	14	45.2		30	46	-,37	58		12,79.	68.50	701
c	-			С	.44	.43	.86	,83	, C	23.00	87.00	•
•	2 . 0	15	45.4	•	.08	29	.10	.31		14.81	75.13	- 599
TOTA	- •	31			• • • •		•••	•				-
10.11	•		٠.	*			•				*	•
ITEM NUMBER 2	24		•		COEFF	CIENTS	OF CORRE	LATION		ME	ANS ,	
. aPT10	TH PO	N	Ρ.		P8-5T	₽B-T7 [*]	8-57	8-11		\$T 1	, TT	400
		. 16	3 51.6		es £ 12	≠ . 30	5 0.15	•.30		13.87	To.37	700
' с	0 0 1	5	6.5	С	.44	.46	.86	. 89	C	23.00	8a.00	- 276
· ·	5 0	13	41.9	•	10	.00		.10	•	13.85	73.69	,
	€ ∪	10	7.17			,					= -	

TOTAL

Appendix C

PERFORMANCE BY OFFICTIVE

FOR THE TWO SCHOOLS AND SIX CLASSES

NOTE: For those objectives for which there are three items, the number of subjects represented in the proportion correct at a particular test time is ascertained simply by summing the N's for the three forms; however, when there are more or less than three items, the N is increased or decreased proportionately.

' Table

PROGRESS TOWARD OBJECTIVES ACROSS ADMINISTRATION TIMES AS REPRESENTED BY PROPORTION OF STUDENTS ANSWERING ITEMS CORRECTLY FOR:

deport 1.

cription of Objectives	•	. Objective			Composite Obje	ctiyé.
- = ,		Administration T	lme	•	Administration	Time
·	Numbér of Items	A-3 A-4	•	Number. of Items	A-3 A-4	-
merousness		•		•	-	•
writes 0~99		89.8 91.9				•
represents 0-99	3	87.8 78.4	;	6	89.8 95	5.2
		• • •	, t	•	•	
•				, .	, f	
dering, Place Value	•	i.		•		
ordering 0~99 -	3	84.8 96.8			•	
notation 0-99	3	15.3 37.1	4	6 ·	50.0	6.9
231		. :	,	•	•	
oblem-Solving (Set A)				•	ı	
subt-simple separating	2 .	74.1/ 187.5			•	•
add-part part whole subt-comparison	2 '	, 100.0 95.6			•	
aunt-comparison	2 .	72,5 85.	7 🕳		•	
11-35	3	88.1 95.	2			•
° 0–99	3 `	. 76.3 83.		6	82.2	89.5
	9		•		·	- ,,, •
oblem-Solving (Set B)	•					
subt-join-addend	2	82.5 78.	6			
add-simple joining	. 2	94.9 87.			•	
subt-part part whole-addend	2	89.7 85.				•
11-15	3	94.9 91.	9			
· 0- 99	، 3	\$3.1 75		6	89.0	3.9
375				` <u>-</u>	V 13-0	w• 1

\$ O 4

ERIC PROVIDENCE OF THE PROVIDE OF THE PROVIDENCE OF THE PROVIDENCE OF THE PROVIDE OF THE PROVIDE OF TH

escription of Objectives		Objective		•	Composite Objective
		Administra	ation Time		Administration 7166
, ,	Number of Items	A-3	A-4	Number of Items	A-3 A-4 23
entence-Writing (Set A)		•			
subt-simple separating	2	95.0	100.0	The second	
add-part part whole	2	. 94.9	100.0	•	
subt-comparison *	2	89.7	18.6.	* * *	
•	*•	,			
11-15	3	93.2	95,2	-	
0-99	3	93.2	90.3	6	93.2. 92.7
entence-Writing (Set B)	•				•
súbt-join-addend	2	43.6	65.0	•	,
_add-simple joining	2 .	. " 100,0-		٠.	•
subt-part part whole-addend	2	80.0	\$5.7	•	
11-15	3	,71.2	20.4	•	1
0-99 ·	, 3	78.0	<i>ęs.</i> 5 _.	6 : :	74.6 81.5
entence-Writing (Free Response)	•	A 1		•	
add-simple joining	2	97.4	. /60.0	•	
subt-simple separating	2 .	97,4	100.0		
subt-part part whole-addend	2	89.77	92.9		
edd-part part whole	2,	97.5	100.0	,	
subt-comparison	2	59.0	80.0	•	
subt-join-addend	2	. 60.0	61.9	•	
Set A (ac shove),	. 6	84.8	13.6	. •	
Set B (as above)	6	22.2	84.7	• •	
11-15	6	. કર્સ	87.1		
0-99	6 ·	84.8	31.1	12 • • • • • • • • • • • • • • • • • • •	83.5 89.1
		•			•
377	•			*	378
_	•	.1	* v==	·	3.3 ,

ERICOUGH the problem types correspond to Set B, these free response problems have the same wording etc. as the interview i.e., the Sentence-Writing Set B items above have alternative wording, number, order, etc.

cription of Objectives		Objective	•		Composite Object			
)		Administr			Administration Ti			
., •	Number of Items	A-3	Λ-4		Number of Items		Λ-3	A-4
٥.		,		• •				
lgor thms	_	24.9	. 98.4	• •				
addition algorithm	· 3	8/	£4.1		æ	•	79,0	92,7
subtraction algorithm	3		F 10-7		(E	•	4.0	7211
lgorithm (Free Response) (Timed	Test)			•				•
2-digit addition algorithm	27	92.8	94.6					
3-digit addition algorithm -	36	80. દ્વ	<i>જદ.</i> ક	•			•	
3 addends	9	34.5	64.0		72		79.2 .	87.6
2-digit subtraction algorithm	27	78.2	83.9		,		•	
3-digit subtraction algorithm	45	39.7	53.7	-	.72		54.1	65.0
Recall of Basic Facts (Speeded Test)					*		•	,
add 0-20		w. Y			· 36		92.2	94.5
subt 0-20	•	•			36		84.9	90.9
	7						ارتذه	1617
				·				

Administration Time

A-4

A-3

Form U N = 20 20 Form V N = 20 22 Form W N = 19 20

· 38g)

Pichal Ly. 12

Ŋ.,

PROGRESS TOWARD OBJECTIVES ACROSS ADMINISTRATION TIMES AS REPRESENTED BY PROPORTION OF STUDENTS ANSWERING ITEMS CORRECTLY FOR:

Number of Items			1	School 3	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	· , , ,		, y, <u>, , , , , , , , , , , , , , , , , </u>
Number of Items	scription of Objectives	·	/	Objective			, _ ,	Composite Objective
of Items		, 		Administra	tion Time	, ė	/	Administration Time
represents 0-99 represents 0-9		* _ ¹		Λ-3	A-4			Λ-3 Α-4
ordering 0-99 notation 0-99 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	•writes 0-99		3 3	,		6		98.4 93.8
ordering 0-99 notation 0-99 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3				*	`		<i>i</i>	
add-part part whole subt-comparison 11-15 0-99 2			3 3	90 L 3.43		-/./6	*	61.3 71.9
subt-simple separating add-part part whole 2 100.0 90.0 subt-comparison 2 11-15 0-99 3 11-15 3 96.2 100.0 100.0 subt-join-addend 2 100.0 100.0 subt-part part whole-addend 2 100.0 100.0 subt-part part whole-addend 2 100.0 100.0 100.0 subt-part part whole-addend 2 100.0 1			•	· · · /		1	٠ .	44, 14,
0-99 oblem-Solving (Set B) subt-join-addend add-simple joining subt-part part whole-addend 1-15 0-99 3-71.0 11-15 3-71.0	subt-simple separating 'add-part part whole	· .	2 / 2 / 2 / 2	100.0	90.0	/* · · · · · · · · · · · · · · · · · · ·	1	
subt-join-addend 2 76.2 100.0 add-simple joining 2 100.0 subt-part part whole-addend 2 15.0 76.0 11-15 35± 3 96.9 0-99 35± 3 97.4 87.5 6 83.9 92.2			\3 .3			Care de	. /	83.4 9 90.6
0-99 351 92.2 1	subt-join-addend add-simple joining	d /	2 2 2 2	100.0	100.0	,		· · · · · · · · · · · · · · · · · · ·
332	11-15 0-99 35±	*	3 .		96.9 87.5	6		382

scription of Objectives			Objective			,		Composite	Objective
			Administr	ation Time	•		ì	Administr	ation Time
	Number of Items		A-3	A-4	•	Number of Items	· ,	A-3	A-4
ntence-Writing (Set A)	•	•						•	•
subt-simple separating	· , 2		1.7.0	vಲ್ಲಿತೆ		•			•
add-part part whole	2	P	100.0	1.6.		,	. •	₩	•
subt-comparison	2	•	80.0	8. C		• '	,		
• • • • • • • • • • • • • • • • • • • •									
	-		<i>a</i> .	/- .					
11-15	ʹ3·		93.6 .	4 G					
0-99	- 3	, ,	93 6	95.5		· 6		43.6	42.2
	_					,	•		
ntence-Writing (Set B)				, ,		.•			
subt-join-addend	2		52.4 • 100.0	18.3	. •			•	
add-simple joining	2	. ^	90.5	90.5					
subt-part part whole-addend	2		70.5	·······	:	· · ·		-	_ · ·
11-15.	,		711.4	93.8					• •
0-99	3		83.9	844	•	, .		80.7	84.1
0.72		•	0.54.			0			,
ntence-Writing (Free Response)				•			•		
add-simple joining	. 2	^	100.0	91.3					•
subt-simple separating	. 2		100.00	100.0		•			_
subt-part part, whole-addend	,2 2		85.0.	95.0		•			, ,
add-part part whole	2 .		. 100.0	45.2		*			
<pre>subt-comparison .</pre>	2	a)	85.7	87.0					
subt-join-addend	2	•	61.9	85.7					•
Can A (an aliqua)		-	95.2	93.8					
Set A (as above)	6	•	182.3	90.6		•			
Set B (sa above)*	. 6	•	* 8 81.9	,0,0					
11–15	6		88.7	93.8				•	•
D=99	- 6		. 85.7_		r	12.''		88.7	9.2.2
`	• ,		•	1				00	
· ·				1	•	· .	•		235
· •									•
\						.			384

ERICugh the problem types correspond to Set B, these free response problems have the same wording etc. as the interview; i.e., the Sentence-Writing Set B items above have alternative wording, number order, etc.

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scription of Objectives		Ot	jectivo	1		Composite Objecti			
	• • •	Ad	lministr	ation Time		Administration Ti			
•	Number ' of Items	•	A-3	A-4	Number of Items		A-3 A-4		
· ·			'	4	•	,	 		
Algorithms	•		90:3	96.9	··,	•	,		
addition algorithm subtraction algorithm	3	٥	16.8		, 6 .		93.6 16.9		
Algorithms (Free Response) (Timed '2-digit addition algorithm	Test) 27		41.4	45.7	·		in the second se		
3-digit addition algorithm 3 addends	36 9		18.3	83.4 37.5	72	ė.	71.1 82.3		
2-digit subtraction algorithm 3-digit subtraction algorithm	27 45		95.3 80.5	89.9 34.8	72		40.3 53.5		
Recall of Basic Facts (Speeded Test)			•		,• •	•	7		
add 0-20 subt 0-20		,			36 36	. ·	88.2 90.4. 82.5 87.2		
	•		•				·		

Administration Time

٠ .	A-3 A-4
Form U N =	11 12
Form V N =	10 9
Form W N =	, 10 11

PROGRESS TOWARD OBJECTIVES ACROSS ADMINISTRATION TIMES AS REPRESENTED BY PROPORTION OF STUDENTS ANSWERING ITEMS CORRECTLY FOR:

	<u> </u>	<u> </u>	*	
cription of Objectives	•	Objective	•	Composite Objective
		Administration Time		Administration Time
	· Number . of Items	A-3 A-4	Number of Items	. A-3 A-4
		•		,
merousness		1 100.0 75.0		,
writes 0-99 represents 0-99	3	15.0 15.0	,	97.5 97.5
representa 0-99	3	V	6	77.5
	•		•	
dering, Place Value "	٠.		•	•
ordering 0-99	3	75.0 100.0		
notation 0-99	3	15.0 55.0	. 6	55.0 77.5
	•	· · · · · · · · · · · · · · · · · · ·	. •	• '
•	*		•	
oblem-Solving (Sat A)		~ .		. ·
subt-simple separating	2	846 100.0	•	
add-part part whole	. , 2	400.0 10010	• •	• •
subt-comparison .	^ 2	100.0 9.2.9	•	•
3*	ia ž	. 95.0 100.0	_	
11-15 0-99	. 3 '	15.0 95:0		95.0 17.5
		75.0	- 0	75.0 77.5
•			,	*
		•	•	
oblem-Solving (Set B)		22 2 /52 2	**	•
subt-join-addend	2	92,3 100.0 100.0 85.7		, •
add-simple joining subt-part part whole-addend	2	• *	. /	
sont-bart bart muore-anneut	. 2	100.0 lan.c		23
-11-15	· 3	100.0 95.0		4
0-99	3	95.0 95.0	6	97.5 95.0
387	•	,5,5		7,54 7010
301	_	•		, .
ERIC	•	·	· · · · · · · · · · · · · · · · · · ·	388
Full Text Provided by ERIC	•	~	•	

					
scription of Objectives	Objective '		• • • • • • • • • • • • • • • • • • • •	Composite Objective	
		Administration Time .	,	Administration Time	
	Number of Items	A-3 A-4 ·	Number of Items	A-3 A-4-13	
ntence-Writing (Set A)		84.6 100.0			
subt-simple separating	. ′ 2	100.0 100.0			
ndd-part 'part whole - aubt-comparison	2	100.0 100.0	• •		
Y •					
11-15	4	75.0 , 100.0			
0-99	3 3	95.0 100.0	· 6	95.0 100.0	
ntence-Writing (Set B)	•		• •		
subt-join-addend	2	69.2 78.6			
add-simple joining	2	100.7 91.7).	·	
• eubt-part part whole-addend	2.	° 100.0 100.0	•		
11-15	•	10.0 55.0		- •	
0-99	3	90.0 95,0	6	90.0, 90.0	
ntence-Writing (Free Response)	• .	•	•		
add-simple joining.	•	100.0 100.0	•		
Bubt-simple separating	~2 ~2	100,0			
subt-part part whole-addend	· 2	1,50.0 100.0		• -	
add-part part whole	2 :	100.0		4	
_subt-comparison	• 2	1013,0 10010	•		
subt-join-addend	2.	100,0 1000		• • • •	
Set A (as above),		100,0 100,0 0			
Set B (as above)	6	100,0		•	
سنسي.			• , , ,	•	
11-15 0-99	<i>f</i> 6 . *	100.0 100.0	,		
0-33	6 _.	100.0 100.0	. (12	100.0 1000	
	• :		\ .	•	
380.	•	,	\ .		
	<u>- </u>	-			
•			- -	390	
-			•	•	

ERICough the problem types correspond to Set B, these free response problems have the same wording etc. as the interview s; i.e., the Sentence-Writing Set B items above have alternative wording, number order, etc.

Table (Continu	ed)~	
----------------	------	--

cription of Objectives	Objective	.	Composite Objectiv	
Number of Items	Administration Time	Number of · Items	Administration Tim	
Agorithms addition algorithm addition algorithm 3 subtraction algorithm 3	95.0 100.0 80.0 95.0	6	87.5. 77.5	
lgorithms (Free Response) (Timed Test) 2-digit addition algorithm 27 3-digit addition algorithm 36 3 addends 9	914.11 96.1 85.8 92.5 48.3 83.3		84-, 4- 92:7	
2-digit subtraction algorithm 27 3-digit subtraction algorithm 45	92.2. 15.5 - 56.0 68.2	72	69.6 73.3	
Recall of Basic Facts (Speeded Test) add 0-20 subt 0-20		36 36	98.3 98.8 92.1 95.4	
in the second se				

Administration Time

---A-3- · A-4

3**9**2

ERIC Foult Provided by ERIC

PROGRESS TOWARD OBJECTIVES ACROSS ADMINISTRATION TIMES AS REPRESENTED BY PROPORTION OF STUDENTS ANSWERING ITEMS CORRECTLY FOR:

		· *		-	2.					240
eription of Objectives	• 7		100	Objective	x :			·	*Composite	Objective
		Number	_	Administra	tion Time		Number		Administra	tion Time
	* •	of Items	A	A-3	h-4	· · ·	of Items	: 1	A-3	Λ-4 ′
representa 0-99 writer 0-99 merousness	•	3 3		. 100.0	93.8 100.0	 نک _.	6	, ,,,	- /60 • 0	96:9
dering, Place Value ordering 0-99	•			80.0	100.0	•		-		
notation 0-99		3		ું & ઇ, ૦	. 45.0		6	•	50.0	62,5
oblem-Solving (Set A) subt-simple separating add-part part whole subt-comparison	··	2 2 2	·	.90,0	83.3 100.0 90.0					. 1
11-15 0-99	.	3 3	* 1	93.3 73.3	100.0 1 81.3	*.	6		83.3	70.6
oblem-Solving (Set B) subt-join-addend add-simple joining subt-part part whole-addend	•	2 2 2	•	72.7	100.0 100.0 60.0					
11-15 0-99 393	* _ ^	3 3	•	93.31 73.3	75.0	•	6	: 3	9483.3	87.5
ERIC .	, '	•		,			·• \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			

scription of Objectives	Objective	and the second	Composite Objective
No.	Administration Time umber Items A-3 A-4	Number of Items	Administration Time A-3 A-4
		,	
ntence-Writing (Set A)	100.0 10.0	•	
subt-simple separating add-part part whole	100. 120.0		
subt-comparison ,	2. 66.7 76.0	• • •	
	•		•
11-15	93.3 93.8		
70-99	86.7 87.5	6	90.0 10.6
ntence-Writing (Set B)		•	•
#ubt-join-addend	75.0	• • • • • • • • • • • • • • • • • • • •	•
addesimple joining	2 100.0 100.0	•	
subb part part whole-addend	81.5 80.0		•
11-15	66.1 81.5)		
0-991	\$ 5.0 \$1.3	6	13.3 84.4
	•	, *	
ntence-Writing (Free Response) add-simple joining	100.0 91.7		
Subtesimple separating	100.0 100.0		
subt-part part whole-addend	2 66.7 100,0	•	in the second
add-part part whole	2 100,0 100,0 90,0 83,3	•	
subt-comparison subt-join-addend	90.0 83.3 2 54.6 70.0	•	
Poor-Join-addella	34.6 20.0	• -	
Set A (as above)	6 96.7 93.8		
Set B (as above)	6 73.3 87.5		
11-15	6 83.3 93.8	• •	
0-99	6 83.3 93.8 6 86.7 87.5	12	85.0 90.6
· ·		}	85.0 90.6
*		•	.
395		•	
	,	•	396

ERICugh the problem types correspond to Set B, these free response problems have the same wording etc. as the interview; i.e., the Sentence-Writing Set B items above have alternative wording, number order, etc.

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scription of Objectives		Objective		. Composite Objectiv
	Number of Items	Administration Time	Number of Items	Administration Tim
Algorithms addition algorithm subtraction_algorithm	3 3	80.0 93.8 93.3 /w.0	. * 6	86.7 96.9.
Algorithms (Free Response) (Timed 2-digit addition algorithm 3-digit addition algorithm 3 addends	Test} 27 .36 # 9	91-1 93.1 91.7 81.8 17.8 _ 33.3	72	72.2 80.0
2-digit subtraction algorithm 3-digit subtraction algorithm	27 45	68.9 84.7° 25.8 29.6	72 ·	41.9 50.3
Recall of Basic Facts (Speeded Test) add 0-20 subt 0-20	· · · · · · · · · · · · · · · · · · ·	\$	36 36	83.9 87.5 72.2 83.9

Administration Time

A-3 A-4

Form U N = 6

Form V N = 5

Form W N = 4

6

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ERIC Full Text Provided by ERIC

Table

PROGRESS TOWARD OBJECTIVES ACROSS ADMINISTRATION TIMES AS REPRESENTED BY PROPORTION OF STUDENTS ANSWERING ITEMS CORRECTLY FOR:

scription of Objectives		Objective	. •	•	Composite Objective
		. Administration Time,			Administration Time
	Mumber of Items		A-4 · · ·	Number of Items	Λ-3 A-4
merousness writes 0-99 represents 0-99	3 3	95.2 95.2		6	95.2 95.7
dering, Place Value ordering 0-99 notation 0-99,	3 3	85.7 9.5	100,0 34,8	6	47.6 61.4 .
roblem-Solving (Set A) subt-simp' separating sdd-part part whole subt-comparison	2 2 2 2	66.7	92.9 [*] 94.1 93.3		
11-15 0-99	3 3	. 95.2 61.2	95.7 ≈91.3	· 6	78.6 97.5
coblem-Solving (Set B) aubt-join-addend add-simple joining subt-part part whole-addend	2 2, 2,	84.6 100.0 85.7	66.7 100,0 88.2	· .	ی
11-15 0-99	3 3	95.2 85.7	91. 3 78. 3	. 6	90.5 84.8
-ERIC 399	- - · · · · · · · · · · · · · · · · · · 			<u> </u>	400

		Tuble (Continu	_		es.		
scription of Objectives		Objective	·			Gompos	ite-Objective
	-	Administrat	ion Time			Admini	stration Time
••	Number of Items	A-3	A-4	,	Number of Items	. A-	3 A-42
1944 - 1943			_	•			
mtence-Writing (Set A) aubt-simple separating	2	10010	100.0			· · .	•
ndd-part part whole	2	100.0	100.C		-	~ ·	•
subt-comparison	2	85:7	70.6		•	•	, -
٠,				, 19	•		* · ·
11-15		90.5	95.7	•			
0-99	3 3	100.0	82.6		6	- 95.	2 - 89./
entence-Writing_(Set B)							
subt-join-addend	,	33.2	71.4			•	
add-simple joining	2	100.0	94.1	***************************************		. •	
aubt-part part whole-addend	2,	92.3	85.C .		The same of the sa	• ,	
11-15	3	71.4-	69.6		0		
0-99	3	76.2	95.7	•	6 ::	73.	82.6
ntence-Writing (Free Response)		,		٠.	,	•	
add-simple_joining	2	93.3	100.0		<u> </u>	<u> </u>	
subt-simple separating	ž	12.9	100.C	٠.	·		
aubt-part part whole-addend	2 ~	71.4	100.0			•	o
add-part part whole	2	° 92.3	100.0	•	•		•
Bubt-comparison	2	20.0	92.9				
Subt-join-addend	2 .	61.5	46.7				
Set A (as above)	6 ,	. 66.7	97.8 *			• •	•
Set B (as above)	- "6	76.2	82.6		•		• •
11-15	· 6	. 71.4					
0-99	6	71.4	87.0 93.5		12 ,	7/.	4 90.2
Ani			, 5.0			1 . 40	·.
401	_	•		5	,	40	5 ,
			•		•		
•			•				• • •
ERIC with the problem types core				•	· · · · · · · · · · · · · · · · · · ·	<u>-</u>	 ,

ERICough the problem types correspond to Sat B, these free response problems have the same wording etc. as the interview account; i.e., the Sentence-Writing Set B items above have alternative wording, number order, etc.

**	an		•		
cription of Objectives	1	Objective	Composite Object		
	Number of Items	Administration Time - A-3 A-4	Number of Items	Administration Time	
	, Trems		or reas	N-3 N-4	
lgorithms addition elgorithm subtraction algorithm	3 3	100.0 95.7	6	99.6 95.7	
lgorithms (Free Response) (Timed 2-digit addition algorithm		92.6 15.7			
3-digit addition algorithm 3 addends	, 36 9	93.7 90.9 38.1 58.0	72	81.4 88.6	
2-digit subtraction algorithm 3-digit subtraction algorithm	<u> </u>	79.4 87.4 38.1 57.4	72	53.6 68.7	
Recall of Basic Facts (Speeded Test)		37.7		92.1 92.8	
add 0-20 subt 0-20		-	36 36	82.9 87.7	
		· · · · · · · · · · · · · · · · · · ·	<u> </u>		
	Administration Tim	e			
,	A-3 A-4				
Form U N =	. 1 6	•		•	
Form W N =	. 8	,			

U4

PROGRESS TOWARD OBJECTIVES ACROSS ADMINISTRATION TIMES AS REPRESENTED BY PROPORTION OF STUDENTS ANSWERING ITEMS CORRECTLY FOR:

	•			246
scription of Objectives	-	Objective	Compos	ite Objective
*	Number of Items	Administration Time A-3 A-4	Number of Items A-	stration Time
merousness Writes 0-99 represents 0-99	3 .	80.0 80.0	6 90.	01.90.0
dering, Place Value ordering 0-99 notation 0-99	3 3	80.0 80.0 20:0 20.0	6 50.	0 \$0.0
toblem-Solving (Set A) aubt-simple separating add-part part whole 'aubt-comparison	2 2 2 2	66.7 66.7 100.0 100.0 75.0 75.0		
11-15 ' 0-99	3	80.0 \\ 80.0 \\	6 80	, p 80.0
roblem-Solving (Set B) subt-join-addend add-simple joining subt-part part whole-addend	2 2 2	• 75.0 75.0 . 66.7 66.7		
11-15 0-99 基份资	3	60.0 60.0	6 406	D. D 80.0
ERIC	•			

cription of Objectives		Objective	,	•		Composite Objective
		Administr	ntion Time			Administration Time
	` Number of Items	A-3 °	A-4		Number of Items	Λ-3 , A-4/2
Eigen Company	,	•	, .		:,	· · · · · ·
ntence-Writing (Set A) subt-simple separating	9 .	100.0	100.0		· -· · \	
add-part part whole	2 *	100,0	100,0			•
Aubt-comparison	· · · · · · · · · · · · · · · · · · ·	100.0	100,0			•
	_	•		. = ;		4
•	• `	100.0.	100.0			
11-15	3 :	1.00.0	100,0	•		100.0 . 100.0
0-99	3	7. W. C	100,12	٠ - ستا المشا	, 6	100.0 100.0
ntence-Writing (Set B)		-	•			
#ubt-join-addend	· 0	33.0	33.0	•		
add-simple joining	2	150,0	100.0		. ^ /	• 4
subt-part part whole-addend	- 2	50,0	50.0	. 10		•
•	•			•		,
11-15	3	မှာ . ဝ	60.0		•	and the second
0-99	3	60.0	60.0	-	6	60.0 60.0
ntence-Writing (Free Response)	` •		•			3 - 1
add-simple joining '	, , , , , , , , , , , , , , , , , , ,	100.0	100.0		•	
subt-simple separating	2	100.0	100,0			
subt-part part whole-addend	~ <u> </u>	100.0	1011,0		•	,
add-part part whole	2	100.0	100,0	•		
subt-comparison	. 2	66.7				
subt-join-addend	 	ఎక .ట	.28,0	•	· · · · · · · · · · · · · · · · · · ·	
Set A (as above),	6	90.0	90.0		-	
Set B (as above)	6	70.0	70.0		· ;	-
•	•	70.0	,0,0,	•	•	
_11-15 0-99	· 6	70.0	. 70.0			•
0-99	6	90.0	90,0	•	12	80.0 80.0 .
	• • • •		,-,-			24
	<u>.</u>	-		**		
40.9		•			•,•	. 408
407		• '	•		7	•

	<u>. </u>								248
scription of Objectives			Objective	ete y	•			Composite	e Objectiv
	•	•	Administr	ation Time	:		** 1	Administr	ration Tit
· · · · · · · · · · · · · · · · · · ·	Number of Items		A-3	A-4 ·			Number of Items	A-3	A-4
			-	*		*			
Algorithmsaddition_algorithmsubtraction_algorithm	- 3 3	•	10010	60,0	. •	ø	6	80.0	- 80.0-
Algorithms (Free Response) (Timed 2-digit addition algorithm 3-digit addition algorithm	Test) 27 36	践	84.4 66.7	84.4		•			
3 addends	9	7	20,0	20,0		5	72	67.5	67.5
2-digit subtraction algorithm 3-digit subtraction algorithm	27 45	•	55.6 24.0	55.6 24.0			72	3 5.8	35.8
Recall of Basic Facts (Speeded Test)		,	•				1	•	-
add 0-20 subt 0-20						•	36 36	11.7 80.0	91.7 °
*	<u>. </u>					٠) 0;	•
	Administration 1	Cime .	,-			· ·		. ,	• •
	A-3 A-4				•		•	•	
Form U N = Form V N = Form W N =	2 2	•	· · · · · ·		• •				

Table

PROGRESS TOWARD OBJECTIVES ACROSS ADMINISTRATION TIMES AS REPRESENTED BY PROPORTION OF STUDENTS ANSWERING ITEMS CORRECTLY POR:

							<u>, 1</u>
cription of Objectives	. •	Objective	•			Composite	Objective
4 ·		Administr	ation Time			Administr	ation Time
	Number of Items	A-3	A-4 ,		Number of Items	A-3	۸-4
		* */ · · · · · · · · · · · · · · · · · ·	-		· · · · · · · · · · · · · · · · · · ·	-, -,	
merousness writes 0-99 represents 0-99	3	100.0 93.3	93.8 87.5	٠, -	· · · · · · · ·	96.7	90.6
	,	•			ŭ	• .	
· · ·					•		į
dering, Place Value ordering 0-99	3	. 100.0	700.0	•		٠.	
notation 0-99	3	46.7	62.5		6 .	73.3	81,3
٠,							
oblem-Solving (Set A)		` •)				
subt-simple separating	2	80.0	90.9		•	•	
add-part part whole subt-comparison	2 2	100,0 80,0	80.0 100.0				•
11-15 0-99	3 3	100.0 73.0	100.0-	-	6	86.7	90.6
	,	,	1				,,,,,
oblem-Solving (Set B)		ا مىس					
subt-join-addend	. 2	380.0	100.0			• *	
add-simple joining	2	1,00.0	100.0				
subt-part part whole-addend	2	70.0	90.0				249
41-15	. 3	86.7	93.8	,	1_		
0.99	3	80.0	100.0	,	6 «-	83.3	76.9
- FRIC					·-	412	•

	•	`		·
escription of Objectives		Objective	•	Composite Objective
		Administration Time		Administration Time
	Number of Items	A-3 A-4	Number of Items	A-3 A-4 %
entence-Writing (Set A) =			<u> </u>	·
· subt-simple separating	2	100.0 90.9	•	
add-part part whole	2 ,	100.0 100.0 	•	
=aubt-comparison-				
	•			
₃ 11-13	3	100.0 87.5	•	
0-99	3 '	100.0 100.0	6	100.0 93.8
	•	•.		•
entence-Writing (Set B)		70.0 81.8		
<pre>subt-join-addend add-simple joining</pre>	2	100.0 100.0	•	
subt-part part whole-addend	2	100.0 100.0	•	-
and for their mean mann		, , ,	•	<i>:</i>
11-15	3 ,	86.7 100.0	ý	•
. 0-99	. 3	93.3 87.5	6 11:	90.0 93.8
	•	•		
entence-Writing (Free Response) add-simple joining	•	10010 90.9		,
_subt-simple separating	2	100,0 100,0	,	
subt-part part whole-addend	2	100.0 90.0	,	
add-part part whole	2 ·	. 100.0 90.9		•
Bubt-comparison	2 .	80.0 90.9		
, aubt-join-addend	. 2	70.0 700.0	•	· · · · · · · · · · · · · · · · · · ·
Set A (as above),		AA 0 02 0		
Set B (as above)	. 6	. 93.3 93.8	* ; .	
, , , , , , , , , , , , , , , , , , , ,	•	90.0 93.8		•
, 11–15	6 ·	99.3 93.8		
0-99	6 .	90.0 93.8	12	91.7 93.8
_	• .:	• • • • • • • • • • • • • • • • • • • •	· · · · · · · · · · · · · · · · · · ·	
			•	
413		•	• •	414
413 "				
(3)			•	•

ough the problem types correspond to Set B, these free response problems have the same wording etc. as the interview ...

*	
Administration	Time

A-4

N = 5 5 5 N = 5 5

A-3

416

415

Form U

Form W

PROGRESS TOWARD OBJECTIVES ACROSS ADMINISTRATION TIMES AS REPRESENTED BY PROPORTION OF STUDENTS ANSWERING ITEMS CORRECTLY POR:

A comment

	•			252
scription of Objectives		Objective .	3	Composite Objective
		Administration Time	•	Administration Time
•	Number of Items	A-3 A-4	Number of Items	A-3 A-4
			•	
umerousness	•	71.4 92.9		
writes 0-99	*3	71.4 . 92.9	•	71.4. 7a.9
represents 0-99	3	11.7 . 70.9	6.	11.4. 12.1
		,	, . -	
rdering, Place Value		4274		
ordering 0-99	3	71.4 92.9	*	
-notation 0-99	\ 3	21.4 21.4	6	46.4 57.1
	\ •		U	
~ ∮	. /		X Commence of the Commence of	
roblem-Solving (Set A)	. ′	66.7 66.7		
subt-simple separating	2 2		, 3	• • • • • • • • • • • • • • • • • • • •
add-part part whole	2			
subt-comparison	2	140.0 66.7	 ,	•
11-15	· 3	71.4" 92,9	,	Name .
0-99	3	64.3 57.1	. 6	67.9 75.0
	•			
• •	1			•
roblem-Solving (Set B)	1			• •
subt-join-addend	2	70:0 . 66.7		,
add-simple joining	2	88.9 77.8		•
subt-part part whole-addend	2 .	•	•	•
•	- · · · · · · · · · · · · · · · · · · ·	77.8 60.0		•
11-15	3	85.17 85.17	,	
0-99 417	3	71.4 50.0	<u>,</u> 6	413 78.6 67.9
± ±, •	•			#T0

Table	(Coutinued) .	
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	•	Table (Cout!	nued)		e C	•
scription of Objectives	· -	Objective	· <u> </u>		, -	Composite Objective
		Administr	ation Time			Administration Time
	. Number of Items .	A-3	A-4`		Number of Items	A-3. A-4
ntence-Writing (Set A)		•	#- ¢		•	
subt-simple separating	. 2	. 100.0	100,00 "		·	
add-part part whole	2	77.8	160.0	•	• -	• •
subt-comparison	2	66.7	60.0	•	• •	
-		_	•		•	
	•	· 85.7 .	85. T		,	
11-15	3	_			*	0 1 6 6 17
0-99	. 3	78.6	δ \$.'/	-	6.	82.1-85.7
ntence-Writing (Set B)		*				·
subt-join-addend	2	22.2	44.4		•	· ' · · · · · · · · · · · · · · · · · ·
add-simple joining	ž ·	100.0	90.0	N.		• ,
aubt-part part whole-addend	2	50.0	88.9	•		
	•		·	•		
11-15	3 , `	\$ 50,0	85.7	,	`	
0-99	' 3	. 64.3	64.3.		* 6	57.1 75.0
ntence-Writing (Free Response)		• • •	`	`		••
add-simple joining	,	100.0	100.0	•		
aubt-simple separating	2	. 100.0	104.0		. 1	
subt-part part whole-addend	2	100.0	70.0			<u> </u>
add-part part whole	2	100.0	100,0	•	•	***
subt-comparison	2 .	66.7	33.0		•••	• • • •
aubt-join-addend	2	20.0	44.0	•	**	•
San A (an aboun)			•	•		***
Set A (as above). Set B (as above)	6	89.3	78.6			
Det B (as above)	. 0	71.4	71.4	u	. ,	
11-15	6	78.6	75.0		* \	
0-99	. 6	·8a./			12	80.4 75.0
• •	,		75,0	× /		29
•				j ,	* .	.
•	•					1 400
419	1, -	-			• .	420
. \				. 1	•	The state of the s
EDIC	_		•			
ERICugh the problem types cor	respond to Set	B, these free re	sponse prob	Tems have	the same wording	S etc. we the interview

icems; i.e., the Sentence-Writing Sat B items above have alternative wording, number order, etc.

scription of Objectives		Objective	•		•	-Composite	Objecti.
	Number of Items	Administra A-3	•	•	Number of Items	Administr	` \ \√
	,	, •	/				
Algorithms	**	م سدی ر	110.6		•	•	;
addition algorithm subtraction algorithm	3 · 3	1 85.4 78.6			6 .	* 82.1	£5.7
Algorithms (Free Response) (Timed	Test)	•	•	*	• •	, Α.	
2-digit addition algorithm	27	93.7	94.4			•	
3-digit addition algorithm 3 addends	36 9	72.6 11.9	85.7 · 61.9	,	72	. 72.9	86.0
2-digit subtraction algorithm 3-digit subtraction algorithm	27 45	. 59.5 .31.4	72.D 37./		72	₹5.7°	\$c,3
Recall of Basic Facts	,			,	•	•	•.
(Speeded Test)	\					84.5.	92.3
add 0-20 subt 0-20		. •		•	· 36 36	80.4	93.5
		<i>,</i> •		,	·		/, · · ·
,	dministration Tim	i e		,	•		
	A-3. A-4	•	•.	•		:	
Form U N =	5 - 4 ;	•	•	,	1.		
Form V N = ,	5 · 5 *	•			£		
Form W N =	4 5 _	. أ					•